

MEDICAL AND SURGICAL REPORTER

No. 1766.

PHILADELPHIA, JANUARY 3, 1891. VOL. LXIV.—No. 1.

CLINICAL LECTURES.

ACUTE BRIGHT'S DISEASE.—TRAUMATIC PLEURISY.—TYPHOID FEVER.—DANGER OF MOVING TYPHOID PATIENTS.

BY MORRIS LONGSTRETH, M. D.,
PHYSICIAN TO PENNA. HOSPITAL.

Acute Bright's Disease.

Gentlemen: The small patient before us, a colored boy, apparently about 10 years old, was brought in by the patrol a few days ago. He had been picked up in the streets in an unconscious condition. It is said that for several hours previous to this he had lain unconscious, and had had several convulsions. On examination on admittance, he was still unconscious. His respirations were irregular and shallow, averaging about eight to the minute; his pulse was 130. The heart's impulse was forcible, as felt over the praecordia. His pupils were moderately dilated, the eyes being turned to the right, but there was no strabismus. He rapidly became conscious, and after two hours was able to talk. All that he complained of was pain in the abdomen; he had been at work on the morning of his attack, running errands. On examination of his urine, it not merely showed the presence of albumin, but also it was found on heating it that it became almost solid; only a little liquid remaining entangled in the coagulum. Delirium followed during the next day and night. The temperature on admission was 97°; on that night it rose to 100°; but since it has fallen gradually to normal except on the third day following another convulsion. On listening to his heart beat, a soft systolic murmur was heard, caused undoubtedly by the rapid action of the heart. There was no evidence of disease elsewhere. At first the boy was given tinc-

ture of digitalis, ten drops every four hours, and with this benzoic acid every third hour. As soon as he was able to swallow, he was given a compound jalap powder, a drachm in divided doses, which was followed on the following day by free movement of the bowels. There was still pain in the abdomen, the nature of which it was impossible to determine on account of the condition and age of the patient; but it was not increased by the medicine. On the second day after admission, only two ounces of urine was passed. The next night another convulsion appeared. The boy was unconscious also again on the next day; this was followed by delirium. In the afternoon and evening only four ounces of urine were passed. That night he was given a hot-air bath and sixth of a grain of the muriate of pilocarpin hypodermically. This was not followed by any great amount of perspiration, although a slight amount of moisture was detected on the skin. Apparently these measures produced no relief of the symptoms; but on the following day the boy felt more comfortable, and passed more urine—12 ounces in the day. His urine is still heavy with albumin; it contains epithelial and granular casts; but it has greatly improved in character. He is now sleeping well, and taking nourishment; his tongue is clearing, he has still some pain in the abdomen, but no delirium or convulsions. From noon yesterday until this morning he has passed 21 ounces of urine; it contains some *débris* and thick purulent-like material, consisting nearly entirely of epithelial cells and casts.

There are several ways for testing for albumin in cases where it is due to inflammatory cause. The acid can be put below in the test tube, with the urine on top; or the urine can be placed in the test tube and the acid rolled below or placed below with a pipette. By this last means of procedure a wider band of albumin can be obtained from the same case than where the urine is

simply poured on top. Another excellent method for the same purpose is to fill the test tube half full of urine and boil the upper half by tipping the tube over an alcohol flame. In this way you will undoubtedly break many test tubes, especially if the flame is in a draught; but it forms a very delicate mode of comparison, the urine in the lower part of the tube remaining unchanged. This method I believe to be the best for detecting small amounts of albumin caused by inflammatory changes. Many other methods, of course, may detect albumin when present in far smaller amounts than does this boiling test; but for daily practical work I wish to enforce the statement I have made.

As to the origin of this boy's illness we are unable to speak positively. We have an indefinite history of a wetting some time ago; but its date and extent are not known. He represents excellently well an attack of acute Bright's in a child. He is restless yet and requires constant watching. The doses of benzoic acid and digitalis will be gradually reduced as the kidneys increase their action; if thorough relief does not appear later in his attack we will resort to hot-air baths again.

Traumatic Pleurisy.

Our next patient is also a colored boy, 14 years old. He was admitted on November 6, with the following history. Eight days before, while playing with some other boys, they placed a rope around his chest, and, throwing its end over a beam, dragged him up in the air a number of times. This produced no pain until four days later, when he experienced a sharp, severe, stabbing pain in the right side, well up under the axilla. On attempting full inspiration, this pain was greatly increased; and since its commencement it has been growing rapidly worse. His temperature, on admission was $104\frac{1}{2}$ °, and he lay in bed on his right side, which position gave him some relief. The expression of his face showed that he was suffering intense pain. His respirations, which were short and shallow, ran 36 to the minute; his pulse was over 100. His high temperature was due to moving him into the hospital, and the pain thereby produced; it was too high, even for severe pleurisy in a boy of his age. At the point exactly where the rope had been placed around his chest, there was a marked friction sound. Nothing could be felt.

The lower part of his chest gave a good respiratory note. On coughing, many râles could be heard in the lung. At first he had considerable expectoration; the sputa were rusty in color; but there was no blood in clots.

It is a common thing for traumatism to produce pneumonia as well as pleurisy, even when no injury has been done to the rib. The pneumonia is more common than pleurisy alone. The rusty sputa is generally the first sign obtained. In this case the effusion in the chest disguised, to a degree, the signs of the pneumonia; and in the conjoined diseases the one starting or developing first always predominates; the pleural effusion cannot become excessive simultaneously with a solidification of the lung with the pneumonic exudation. This boy coughs only on exertion now; the expectoration of rusty colored sputa has stopped.

The question now arises as to the course of treatment. It is evident that we cannot treat such a case as ordinary pneumonia or pleurisy, with an underlying constitutional or diathetic factor. These cases of traumatism must be kept as nearly as possible in the condition given to a broken bone. The chest movements must be restrained, just the same as in a fractured rib. In this case there has not seemed to be an urgent necessity for such strict treatment. We have given the boy anodynes—the acetate of morphia, $\frac{1}{16}$ of a grain every three hours—together with eight grains of the acetate of potash, to help absorb the fluid and favor its excretion.

I will present another case of pleurisy of similar origin, which shows a not infrequent result, following similar chest injuries. This man, 58 years old, was admitted on November 3. He experienced, in the Spring, a fracture of several ribs. This had not inconvenienced him since, until October, when he was exposed to excessive wet weather, remaining for long periods in wet clothes. There appeared then, a cough, shortness of breath, and a sharp pain through the seat of the former fracture. This is a very common history—the selection of the seat previously injured for the recurrence of a pleurisy. An examination of his chest reveals a few crackling râles at the base of the right lung; his heart and the other lung are normal. There is diminished resonance on the affected side below the nipple, and behind the axillary

Jan. 3, 1891.

Clinical Lectures.

3

line dulness is very marked. This dulness is not changed in area or position by change of posture ; this is very likely to occur in these recurrent pleurisies, because the pleural sac is, in parts at least, adherent, and the new effusion is probably sacculated and limited in its amount and extent. There is no rusty sputa as we are likely to have in a fresh traumatic case. It is a free frank pleurisy, with some bronchial trouble. The temperature was higher than we would expect ; this was due to the agitation experienced by transmission to the hospital and subsequent physical examination. In such a case, always wait to see if the temperature will drop down without the administration of any marked remedies ; it frequently or generally does so. The treatment for this man is the same as in the other case ; the acetate of potash being given in fifteen-grain doses and the acetate of morphia in one-third grain doses. In addition poultices, consisting chiefly of mustard, were applied to the chest. These were intended to relieve the pain. The little effusion which existed is going off. Adhesion is occurring at the lower part of the lung. A layer of lymph has been thrown out and is becoming adherent.

Another point, practical in its bearing, occurs to me here. Generally, when you see these cases, the bowels have not been acting for several days, and the question arises, Should you give a purgative ? It is always my practice to try to avoid its administration, if possible. It is a painful strain to the patient little able to handle himself properly ; so that, if possible, the purgation should be put off. The quiet and rest are more essential. Later not only are enemata of service, but the remedies which drain the intestinal mucous membrane are indicated.

Typhoid Fever.

The next man, 22 years old, was admitted November 1, with the diagnosis of typhoid fever. He is a printer, and was never ill before. A week prior to his admission, dizziness occurred, with headache, loss of appetite, malaise and aching in the joints and bones ; and his bowels were very constipated. Two days before his admission he had an attack of nose-bleed. On examination some harsh breathing was noted under the right clavicle ; there were no bronchial râles ; the pulse was acting rapidly ; and there was a slight systolic murmur at the

apex. This murmur has since disappeared. His liver was normal in its area, but the spleen was slightly enlarged. His temperature was 99° on admission ; and, on examination of his skin, four or five suspicious spots were seen over his abdomen. After pressure, these spots appeared with rekindled redness. The fresher ones came back promptly, the older ones more slowly. At present his abdomen is not distended, and there is a little gurgling in the right iliac fossa. Don't seek for this latter symptom. It is much better to do without it. You may easily punch through the thinned and ulcerated intestinal walls in searching for it ; but if on touching the surface gently you get the symptom, so much the better. It shows the presence of air passing through fluid. Active manipulation of the abdomen at this point is not only dangerous to the patient, but, in liquefying solid matter and producing artificially gurgling, may be deceptive for diagnostic purposes. The tongue is swollen and coated ; it shows a wedge-shaped clearing area. The pulse is not high ; the respiration is even ; and there is a tendency of the temperature to return to normal ; in fact fourteen days from the day of first complaint it has become in the morning sub-normal. The spots which you see here, which have lasted for many days, are seen unusually late.

The treatment of this patient has been of the simplest character. Enemata, to prevent impaction—for his bowels have seldom moved—have been administered. He is taking dilute muriatic acid and quinine. He is being given a liquid diet, and the surface of his skin is regularly sponged.

In cases of typhoid fever, this has been the experience of the Pennsylvania Hospital : Brought into the hospital before the end of the first week, unless the cases are virulent, they are likely to terminate favorably. In the same grade of cases brought into the hospital in the second week of their disease, the mortality is increased threefold. When brought in in the third week, the mortality is terrific ; it is a miracle if the patient does not die. The experience of London hospitals has been the same, especially at the London Fever Hospital. The practical lesson of this is to move your patients early. If mistaken in your diagnosis, no harm has been done ; your patient can walk out of the hospital in a few days, if he does not show the existence of typhoid ; but waiting until you are certain of your diagnosis, you

are increasing the risks to your patient tremendously if you intend to send him to a hospital. In a case which you have seen late in the course of the disease, no matter how uncomfortable it may be at home, no matter how poor the bed or room and wretched the nursing, remember the fatality consequent upon moving a patient.

CANCER OF THE UTERUS.

BY E. E. MONTGOMERY, M. D.,
PROFESSOR OF GYNECOLOGY, MEDICO-CHIRURGICAL
COLLEGE; OBSTETRICIAN, PHILADELPHIA
HOSPITAL.

Gentlemen: The first patient I bring before you is a German woman, fifty-four years old; her father, one sister and two brothers died of phthisis. She came to this country at the age of fifteen years; was married and has had eight children. Eight years ago she had syphilis. For the last two years she has been suffering with severe pain in the back, and occasional prolapse of the rectum. During the last two months her suffering has become greatly increased; the gravest symptom being periodical uterine hemorrhages, and recently, the discharge of feces through the vagina, indicating the development of a recto-vaginal fistula. The symptoms—pain, hemorrhage and fecal discharge from the vagina—are her most serious disorders. Upon examination, I find a thickening of the walls of the orifice of the vagina; and, as I proceed, I meet with ulceration on the posterior surface, from which an offensive discharge takes place when the parts are subjected to pressure. This thickening and ulceration extends from the vagina to the uterus; so that it is difficult to define one from the other; and an opening can be determined between the vagina and the rectum through which the feces pass. The disease has evidently developed in the uterus and extended from it to the vagina, involving more particularly the left lateral and posterior walls, although the anterior wall has not entirely escaped. As the disease primarily involved the uterus, we may have in addition a recto-uterine fistula.

I regret that it is so difficult to exhibit the lesions present in a case of this kind; but I shall take occasion to exhibit to you the *post-mortem* specimens removed from a woman who died in the institution two days ago. The woman was thirty-seven years of

age, a German and a cook. She menstruated regularly, and had had two children. During the latter part of her life she suffered with severe pelvic pain, vaginal hemorrhage and profuse discharge. One year ago she began to experience severe pain at the menstrual period; later the menstrual flow was excessive; and within the last few months an inter-menstrual hemorrhage occurred, followed by a profuse offensive discharge. Her bowels were constipated, her urine was mixed with blood and for some months feces had passed through the vagina. At the autopsy the heart and lungs were found healthy; the pelvic viscera were matted together, and there was extensive involvement of the lymphatic glands in the pelvis; the right ureter was distended to the size of a finger, and, upon being broken, was found to be filled with pus. The pelvis of the right kidney was dilated and contained considerable pus; the left kidney and left ureter were normal. Upon examination of the vagina, it was found that the posterior surface was completely destroyed, forming a large opening into the rectum, through which the contents of the bowel passed; infiltration extended laterally quite extensively upon the right side of the vagina, and had undoubtedly given rise to obstruction of the right ureter, causing the accumulation of pus within the kidney and ureter, inducing at first a hydro-nephrosis, and later a pyo-nephrosis of the kidney. The uterus was found free from disease; which indicated that the vagina was the seat of its origin.

Cancer of the uterus is a very frequent disease. This organ is the seat of cancer in one-third of the cases of malignant disease in women. Primary cancer of the vagina is exceedingly rare. In the majority of cases the disease extends from the cervix to the vagina. When the disease originates in the vagina, it is usually of the epithelial form and is more rapid in its progress; the walls of the adjoining viscera being thin, they are soon perforated, and the bladder or rectum opened. Where it is seen sufficiently early, the proper method of procedure would be the removal of the diseased part, even if it were necessary to open into the adjoining viscera to accomplish it, and to bring together the denuded surfaces with sutures. They are hopeless cases for treatment, as the disease, with few exceptions, soon recurs.

Cancer originating in the body of the uterus is also of rare occurrence, it occurs in

Jan. 3, 1891.

Clinical Lectures.

5

truated
Dur-
suffered
orrhage
go she
the men-
ow was
months
curred,
charge.
ine was
months
a. At
found
ected to
involve
pelvis;
size of
s found
of the
ntained
nd left
tation of
posterior
orming
through
passed;
exten-
vagina,
obstruc-
the accu-
nd ure-
sis, and
The
which
t of its

requent
cancer
nt dis-
of the
majority
e cervix
ginates
ithelial
ss; the
g thin,
dder or
ficiently
e would
even if
joining
ng to
sutures.
, as the
curs.
of the
ccurs in

about two per cent. of the cases in which the uterus is the seat of the disease. It is quite evident why this should be true; the cervix is that portion of the uterus which is most likely to undergo injury during parturition, and the efforts on the part of nature to restore such lesions result in the formation of tissue of lower vitality, which, under favorable occasions, undergoes increased cell proliferation. While it is true that malignant disease may occur in women who have not borne children, it is rare, and it occurs with the greatest frequency in women who have borne a number of children, and who have undergone lesions of the cervix as a result. The disease may occur at any age, from twenty to seventy years. It takes place, however, with the greatest frequency at or near the climacteric. It may begin upon the mucous surface, in which the cell proliferation leads to the formation of large cauliflower growths, which may fill up the vagina. In these the vessels are much enlarged; their walls are thin and without muscular coat, so that they rupture easily; and as they have no contractile power, hemorrhage is a marked symptom of the disease. In other cases, the walls of the cervix become rapidly infiltrated, and are found to be hard and dense, giving rise to most excruciating pain. This form is known as that of scirrhus. Cancer of the uterus seems to progress with greater rapidity when it occurs in the young. It takes place in such cases where there has been a family predisposition to the development of tubercular trouble, so that it is quite possible that the peculiar condition of health, of the individual, favors the rapid progress of the disease.

The prominent symptoms of cancer of the uterus are pain, hemorrhage and offensive discharge. Of these, hemorrhage is usually the first, and may make its presence known by increased flow at the menstrual periods; later the hemorrhage may take place at irregular intervals, or give rise to a continuous bloody discharge. Frequently the patient suffers from a profuse, thin, watery discharge, which has somewhat the odor of decomposing flesh. Pain, while in many cases a marked symptom, is not a constant one, some patients, indeed, going through the whole course of the disease without suffering any distress. Pain, when felt, is usually in the region of the uterus, and radiating from it. As a result of the profuse bleeding, the constant discharge,

and a severe sleep-destroying pain, the individual soon becomes emaciated, presenting a wearied look, often a straw-yellow color, producing what is known as cachexia. This condition is due, in a great degree, to the chronic poisoning of the system of the patient by the absorption of septic material, which takes place from the pockets of the decomposing tissue. That this has a marked influence in its development, is evident from the fact that those patients who undergo operation, by which this tissue is removed, temporarily regain their color and healthy appearance to such a degree as to lead their friends to hope that a mistake has been made as to the character of the disease.

Patients suffering with this disease appeal to our sympathy. There is no more distressing position to be placed in, than to be physician to a lovely woman, who is the victim of a disease that has progressed to such an extent as to render it ineradicable. It is very important, therefore, in every case presenting symptoms of a suspicious character, to proceed, at once, to a careful examination of the patient, and where she is evidently suffering from incipient development of malignant trouble, to resort to operative interference. It is now well recognized that cancer in the uterus, as in the mammary gland, is, in the beginning, a local disease; and if it is attacked before it has extended to the surrounding structure, we may hope to afford our patient immunity against its return. We have not, however, the same opportunity of following the disease when the uterus is its seat, as where it has involved the mammary gland.

In the latter organ, it is accepted as an established rule, that removal of the corresponding axillary glands should accompany the removal of the mammary gland; but we cannot carry out such a rule in operations upon the uterus. The cases in which we may hope to proceed to a radical operation where the uterus is the seat of the disease, are necessarily limited. It is only in those cases in which the disease is confined to the uterus, and in which there is no evidence of the involvement of the vagina or extension to the broad ligaments, that we may hope to be successful in extirpating the disease. Yet even in such cases, we cannot say when the disease may have extended from this organ, through the lymphatics, to the glands of the pelvis; and when this is the case, a return of the disease is certain to take place.

Now, two plans of procedure are advocated for this—high amputation of the cervix, and entire removal of the uterus. I am aware that in making this statement, I do not name amputation by the ecraseur, by the galvanic ecraseur, by the scissors or by the knife; such operations hardly deserve the name of being palliative, as it is very rarely that they succeed in arresting the progress of the disease. The tendency of the disease is to extend continuously upon the tissue first involved, and from it to the contiguous tissue. Any operation, therefore, which does not remove the diseased tissue entire does not deserve the name of a radical operation. It is a well recognized fact that in operations upon the mammary gland for malignant disease, every vestige of the gland should be removed; it seems equally important to us that in operations for the removal of the malignant disease of the uterus, every vestige of that organ should be extirpated, and that when this is done the opportunities for benefit to the patient are enhanced.

Extirpation of the uterus is not a new operation, having been done as early as the beginning of the present century; but the results of the operation were so grave as to lead to its discontinuance. West quotes twenty-five cases, twenty-three of which proved fatal. Freund, in 1878, revived the operation of removal of the uterus, but performed it by the vagino-abdominal method. Czerny, in 1879, extirpated the uterus through the vagina, but was so little impressed with the value of the procedure, that his subsequent operations were done by Freund's method; and he did not recur to vaginal operation, until several successful operations had been done by others. Freund's operation was attended by so great a mortality—79 per cent.—that it has been discontinued. The vaginal procedure has continued to grow in favor, until now, the statistics of many hundred operations can be compiled, and nearly a hundred operations enumerated by a single individual. With improved methods of procedure the operation has been expedited, and its mortality greatly decreased. When the operation was performed with ligation of the broad ligaments, with suturing the peritoneum and the vaginal surface, and with complicated methods of drainage the length of time required made the operation a severe test to both patient and physician. Now, when the uterus is encircled by an incision,

the vagina pushed off anteriorly and posteriorly until the peritoneum is reached, the uterus depressed into the vagina, and the broad ligaments clamped upon either side, the operation can be performed with great expedition and with less influence upon the system of the patient.

I have had some six cases in which I extirpated the uterus, and five of the patients are now living. The operation has been performed in periods of time varying from fifteen minutes to one hour and a half. The longest time was taken in the first operation, in which, in my efforts to avoid the bladder, I became lost in the anterior wall of the uterus, so that much time was required for the completion of the operation. In the last patient, the uterus was readily drawn down and the operation was completed in fifteen minutes. The broad ligaments may be secured with forceps, or with clamps, such as I show you, in which they are firmly held, and there is no possibility of the tissue slipping or of hemorrhage occurring. These clamps have been objected to, as being unnecessarily heavy, but when we consider that there is a certain amount of sloughing of the tissue, which is compressed in the clamps, this does not seem to be a reasonable objection, as by their weight the broad ligament is brought down and held, so that the peritoneum is glued together before the forceps are removed, permitting the slough to come off outside the peritoneal cavity. Drainage is also favored by the weight of this instrument, and it is still further promoted by the introduction of a tent of iodoform gauze between the two instruments. The clamps are removed at the end of twenty-four hours and the gauze tent at the end of forty-eight or seventy-two hours. The cavity of the vagina is subsequently irrigated by a disinfectant solution.

In the hands of men like Leopold the mortality of this operation has been reduced to about four or five per cent.; and for this reason some of those who originally objected, now advocate it as the preferable plan of procedure. As I have already said, however, it is of limited application. It should not be performed where the disease has extended beyond the uterus, as indicated by infiltration of the broad ligaments. It is not wise; it is not right, to subject a woman to an operation that is attended with a certain amount of danger and with a great amount of anxiety, when it is *certain* not to result in the eradication of the disease. In

Jan. 3, 1891.

Communications.

7

those cases, where extirpation is unjustifiable, it becomes difficult to say what should be our method of procedure. Operations of curetting the uterus, and the subsequent application of strong caustics have been highly extolled. This method as introduced by Sims, has been extensively practiced by Van de Warker. I must confess, however, that my own experience in this plan of procedure has been exceedingly unsatisfactory. It consists in curetting and cutting away the diseased tissue until hard and firm tissue is reached, followed by the application of a solution of persulphate of iron upon tampons of cotton, so that the hemorrhage is arrested. At the end of forty-eight hours the clotted blood is removed and the cavity thoroughly irrigated, and this is followed by the application of a caustic. For this purpose chloride of zinc, bromide, and acid nitrate of mercury are used. The chloride of zinc is preferred by most surgeons. It should be used in strong solution, from six drachms to one ounce of the salt to one ounce of water. This is applied by wetting a number of small tampons of absorbent cotton in the solution, and, after squeezing them dry, applying them over the surface to be destroyed. The caustic agent has a greater affinity for the diseased tissue than for the healthy, consequently a marked slough results from the uterus. It is very important that the vaginal surface and the healthy tissue should be carefully protected from the superfluous fluid. For this purpose the walls of the vagina are covered with an ointment consisting of one or two drachms of bicarbonate of soda to an ounce of cosmoline. After the tampons have been carefully applied, they are covered with a dry absorbent cotton, and then with a tampon of cotton wet with a saturated solution of bicarbonate of soda. This solution neutralizes the chloride of zinc with which it comes in contact, and prevents its destructive effects. But even with all this care, it is sometimes difficult to avoid superficial burning and sloughing of the vagina. The operation at best is but a palliative one, and where the disease is not thoroughly eradicated its subsequent progress is rapid.

—Echujin, a glucoside allied to ouabain and strophanthin, is the latest addition to the interminable list of African arrow poisons. It is derived from an apocynaceous shrub, *adenium boehmianum*.

COMMUNICATIONS.

SUPRA-PUBIC CYSTOTOMY IN A CASE OF ENLARGED PROSTATE.¹

BY W. H. H. COBB, M. D.,

GOLDSBORO, N. C.

Without entering into a history of the varieties of prostrate trouble, or the numerous operations for their relief by surgeons in Europe and in this country—for this has been ably and fully described in a paper before this Association in 1888, by Dr. R. D. Webb—I will simply report a case of enlargement of the right lobe of the prostate, with cystitis and symptoms of vesical calculus, entirely relieved by the operation of supra-pubic cystotomy performed after the method of my friend, Dr. Hunter McGuire.

The patient was a farmer, married, 49 years old, of a rheumatic diathesis, who dates his troubles back to 1881. While attending to the duties of Register of Deeds, he carelessly allowed over-distention of his bladder, and has suffered more or less since that time. In 1882 he had an attack of nephritic colic and passed a small calculus, similar in size and shape to a grain of wheat, and has had slight symptoms since. On three different occasions he passed dark gritty deposits. In 1883 he suffered much inconvenience and some pain in urinating. In 1887 he passed a dark, gristly bloody substance about the size of a corn-pea, accompanied by much pain and bloody urine. For the past three years he has suffered much with cystitis in a very aggravated form, with great pain and difficulty in micturition, his urine containing much blood, pus and mucus. He had consulted numerous physicians, besides taking various patent medicines, receiving but little temporary relief. His efforts to relieve the bladder and bowels were tormenting, and night after night was spent in walking over his premises, with groanings so severe as to disturb his neighbors. There was a constant desire to relieve the bladder, dull pain at the hypogastrium, and pain in the glans penis, a feeling of weight in the rectum with sudden stoppage of urine, which change of position would often relieve, his uncomfortable and painful

¹ Read before the Southern Surgical and Gynecological Association, at Atlanta, Ga., November 12, 1890.

sensations being increased in severity by walking, riding or driving.

This was his condition when he consulted me, June 15, 1890. From this history of the case I suspected vesical calculus, but failed upon examination with the sound to detect any stone; however, a digital examination per rectum disclosed the right lobe of the prostate greatly enlarged, rough, indurated, and exceedingly tender and sensitive. Notwithstanding the failure with the sound to detect a stone, I still thought from the man's symptoms that he might have a stone at the base of the bladder in the posterior prostatic pouch. So distressing were his symptoms that I feared longer delay would result in uretero-pyelo-nephrosis; and so, after consultation by letter with Dr. Hunter McGuire, and with Dr. W. H. H. Cobb, Jr., who saw the case with me, I decided upon a supra-pubic cystotomy as the only hope of securing permanent relief.

On the night of June 22, I gave the man a saline purgative, followed by a warm-water enema early next morning. On the morning of the operation, June 23, I gave five grains of quinine at 5, 6 and 7 o'clock. The patient having been placed upon the operating table, all hairs were shaved off from the pubes to the umbilicus, the parts were thoroughly washed with soap, hot water and nail brush, then with 1 to 2,000 solution bichloride of mercury, our hands, instruments and sponges being rendered thoroughly aseptic. Drs. J. F. Miller, Thos. Hill, M. E. Robinson and W. H. Cobb, Jr., were my assistants.

The patient was fully æsthetized with chloroform, and his bladder was washed out thoroughly through a soft rubber catheter with a four per cent. solution of boric acid, until the returning fluid was perfectly clear and odorless. Having no rectal bag, a soft rubber pessary with a stem was inserted up the rectum, after dilatation, and about ten ounces of warm water were injected in same. Now six ounces of four per cent. solution of boric acid were thrown into bladder through a soft rubber catheter, and retained by rubber band around the penis, while the solution distended the bladder so that it could be distinctly felt above the pubes. Instruments, consisting of scalpel, tenaculum, small forceps, retractors, etc., were placed in a tin tray with carbolic acid and hot water 1 to 40. I began three inches above

the symphysis pubis, and made an incision down to the pubic bone, through the skin, fat and cellular tissue, down to the linea alba, which was divided with an incision half an inch shorter from above, the recti muscles were next separated with the handle of the scalpel down to the fascia transversalis, carefully keeping in the median line, using retractors to separate the recti muscles. The fascia transversalis was now incised, shortening the incision another half inch from above. The fat and cellular tissue between the transversalis fascia and the bladder having been separated with the handle of scalpel, the bladder was brought plainly into view. It was caught up with a tenaculum and drawn forward, and a free incision in the lower portion was made admitting the left index finger, which was introduced into the bladder as the scalpel was withdrawn.

The bladder having been thoroughly explored, I must confess that I was disappointed in not finding a stone in the cul-de-sac posterior to the enlarged prostate, as the previous history of recurring calculi, with severe cystitis, pains in the glans penis and sudden arrest of flow of urine, all combined, seemed strongly to warrant the belief in the presence of stone in the bladder, notwithstanding the failure to detect it with the sound. Careful exploration of the bladder failing to reveal a vesical calculus, tumors or other abnormalities to remove, the parts were thoroughly cleansed with antiseptic solution and a No. 15, American scale, soft rubber catheter was introduced into the bladder through the abdominal incision, the distal end of the catheter being placed in a cup by the side of the patient. Three stitches were introduced through the skin only to approximate to some extent the gaping edges of the incision, and the wound was now dressed antiseptically, iodoform, bichloride gauze and absorbent cotton being used. The presence of the catheter in the abdominal incision produced so much vesical tenesmus that it could not be retained in place continuously, and during its absence from the bladder a large sponge was substituted for the absorbent cotton to catch the constantly dribbling urine, which was removed, thoroughly cleansed and rendered antiseptic as often as it became saturated with the urine. The temperature rose to $99\frac{1}{2}^{\circ}$ F. on the evening of the operation, and $100\frac{1}{2}^{\circ}$ F. on the following evening, and at no time

Jan. 3, 1891.

Communications.

9

did the pulse exceed 82. Both temperature and pulse became normal on the third day after the operation and remained so from this time on. Hot water enemata were used daily to keep the lower bowel open and to aid in relieving pelvic congestion and in reducing the enlarged prostate. For two weeks the bladder was washed out daily with a four per cent. solution of boric acid, and afterwards on alternate days for about two weeks longer; and the patient's urine was kept acid.

About two weeks after the operation the urine ceased to dribble, and when bladder felt uncomfortably distended, the urine was drawn by the patient, who inserted a soft rubber catheter through the abdominal opening, thus affording the urethra perfect rest. Three weeks after the operation I introduced a hard rubber tube, size 15, American scale, $2\frac{1}{2}$ inches long, and allowed it to remain in the abdominal opening the greater part of the time; the patient withdrawing the plug about every three hours to relieve the bladder. At times, in the patient's movement of his body, the recti muscles would suddenly contract and expel the tube; and so strong were these contractions, that great pain would be induced in attempting the re-introduction of the tube. At no time was the patient able to relieve his bladder through this artificial urethra save with the aid of the catheter or tube. At intervals of every two weeks the prostate was examined and found to be decreasing in size, softening in consistence, and assuming its normal appearance. At the expiration of two months (August 23) I found the prostate perfectly normal, with no symptoms of cystitis, and withdrew the plug, allowing the fistula to unite, which it did in about ten days. My patient now performs the acts of urination and defecation without the slightest trouble, expresses himself entirely relieved, and is following his usual vocation.

REPORT OF A CASE OF LEPROSY.¹

BY J. H. BERTRAND, M. D.,
DE FOREST, WISCONSIN.

To the great majority of persons leprosy possesses only an historical interest, and it is classed by them in the same category as pestilences and plagues, which formerly devastated countries, but which now are extinct.

But, unfortunately, it cannot be so regarded; it is a living and actual reality which the case I have brought before you to-day is a sad proof of.

Case 1. M. M., single, a native of Norway, came to this country at the age of seven years and is now forty years old. The family history on the father's side is good. His father is still living and eighty years old. His mother died of leprosy in this country, at the age of fifty-six years, after an illness of seventeen years. An uncle on the mother's side also died of leprosy. During the first seven years he was in this country he enjoyed good health; at the end of that time, when he was fourteen years old, the disease first made its appearance. The onset was sudden, without any prodromal symptoms. Simultaneously with the appearance of pale, bluish-red spots over the trunk and extremities, chiefly over the extensor surfaces, came chills, fever, loss of appetite, and great prostration, with severe pains in the upper and lower limbs, which was diagnosticated as rheumatism by his physician. The maculae were present for about two years, when they gradually disappeared, leaving the skin apparently as it was before. During that time they underwent no alteration except to change to a brownish hue. About eighteen months after the onset of the disease, hyperesthesia made its first appearance, first at the site of the maculae, and gradually spread over the extremities with increasing intensity. This condition was present for about a year and a half, when it was slowly replaced by anaesthesia, which came on in the same order as the hyperesthesia, beginning in the maculae and gradually extending. Towards the close of the third year the man's general condition commenced to improve, the pains in the joints and limbs diminished, and he became able to leave his bed; but it was with difficulty that he could get about, owing to ankylosis of the knee and ankle joints in both limbs. Both wrists and all the small joints of the hands were also ankylosed. The knees and ankles regained their normal functions in about eight months, and he has been able to be about with comparative ease ever since. The wrist joints have only partially recovered; but none of the smaller joints have improved. His condition then remained fair for about seven years, so that he could do light farm work, when he had another period of sickness, which he describes as being like the first attack, and

¹ Read before the Central Wisconsin Medical Society, September, 30, 1890.

which confined him to bed for another three years. Since that time, with the exception of an occasional short interval of a few days, he has been sufficiently well to be up and about up to the present.

During the whole course of the disease there has been no lesion of the mucous membranes nor any tubercles. Whether there has been any thickening of the nerve trunks I have been unable to learn.

The above is substantially the history which this patient gives. His present condition is as follows. He is emaciated and anemic, and his muscles are wasted away. His skin is atrophied, thin, shining and slightly drawn over the subjacent parts. There is no hair on his face. His senses of smell, taste and hearing are normal, but his right eye has been destroyed by an ulcerative process which is still going on, but which is not now painful. The ulceration has destroyed the cornea and sclerotic, but closed up before all of the intra-ocular fluids escaped. New deposits occurred on the surface, forming firm cicatricial tissue, but not sufficiently strong to prevent protrusion of the fluids, so that now there is a dense, horn-like staphyloma which protrudes for about half an inch beyond the eyeball. There is no hyperesthesia at present, but there is anaesthesia of the hands and arms as far as the elbows, and of the feet and legs up to the knees. There is no regular or symmetrical arrangement of the anaesthesia, nor does it seem to follow the course of the nerves, but affects the entire extremities up to the first large joints. It is so perfect that the patient has himself cut off some of his toes that were falling off, without feeling any pain, and he has on many occasions been severely burnt by unconsciously placing his hands in contact with articles that were hot. Great changes have taken place in the hands and feet from atrophy of the bony, muscular and nervous structures, leading to deformity, ulceration and loss of all but four of the toes. The muscles and tendons of the hands are atrophied and contracted, and all the small joints stand out distorted and rigid, which gives the hands very much the same appearance as is presented in arthritis deformans. Under the right foot there is an ulcer, which has been suppurating for some time, and through which pieces of necrosed bone are occasionally discharged. All of the toes, except the fourth one, have fallen off of this foot. On the left foot the big and little toes are gone.

NEW YORK CORRESPONDENCE.

NEW YORK LETTER.

New York Academy of Medicine.—Bullet Wound of Brain.—Recovery.—Pylorectomy with Gastro-Enterostomy, for Cancer of the Stomach.—Papillitis.—Orbital Optic Neuritis.

Among the more interesting items of the section work at the New York Academy of Medicine for the week ending December 20, 1890, may be mentioned a case reported to the Surgical Section by Dr. J. A. Wyeth. He said that on October 30 a school boy was brought to Mt. Sinai Hospital having a short time before been accidentally shot in the head with a pistol of No. 22 calibre, in the hands of his brother. The shot had been fired at a distance of about three feet and directly in front. The ball had struck the forehead. Beyond profuse hemorrhage and severe pain, there had been no immediate symptoms. On admission the boy was calm and rational; pulse good. About one inch above the middle of right eyebrow a small round wound existed, the edges being depressed. Around it there was some slight swelling. Scattered spots of powder were present in the skin of the face and the clothing was covered with blood. Vision was good in both eyes. The boy had walked into the hospital without assistance. He had been taken immediately to the operating-room. He was there etherized, the external parts having been thoroughly cleansed, an incision two inches long was made at the site of the bullet wound and parallel to the eyebrow. The periosteum was raised and loose pieces of bone were found in the wound, consisting partly of spiculae of considerable size from the inner table. Fluhner's probe was passed into the wound to a distance of a quarter of an inch. The patient had then begun to vomit. A finger was placed over the wound, and on this being raised there was a sudden gush of dark clotted blood and particles of white brain substance. The wound was washed out with bichloride and packed with iodoform gauze secured with a tight bandage. On November 3 the boy's temperature had risen to 104°, and there had been some delirium. Ice bags had been applied to the head. On the following day the wound, on being dressed, was found to be aseptic. After this dressing the temperature had

fallen to a little above normal and had so continued. On November 8, upon removal of the gauze, about half an ounce of blood-clot and broken-down brain substance had welled up from the opening. No evidence of any suppurative process had existed in the discharged material at any time. During the progress of the case the patient had experienced more or less pain in the region of the occipital bone and in the right ear. He had continued to improve and on November 25 his temperature was reported as normal, and the ice coil was stopped. On December 7 the wound was found to be entirely healed and the patient was suffering no pain; he was bright, cheerful and did not seem to suffer any inconvenience from the loss of brain tissue or from the presence of the bullet in the cranial cavity. Care would be taken to keep him quiet for some time yet in order to give the bullet the best possible opportunity to become encysted. The speaker wished to give his late house-surgeon, Dr. Weber, due credit for his successful management of this interesting case.

In the discussion which followed, the opinion was freely expressed that the Bell Telephone Co. should be again urged to withdraw its obstructive decision, which prevented the utilization of certain processes for the localization of bullets within the cranial cavity, and Dr. Gardner explained that he had found out a method by which the ordinary telephone connections might be arranged to do the necessary work, and

Dr. W. T. Bull then related the histories and the details of the operations in three cases of cancer of the stomach. He thought that it was strange that in this country where so much good work had been done both scientifically and practically in abdominal surgery, so little effort had been made for the cure of cancer of the pylorus. It was thought that the operation of pylorectomy had been simplified by the introduction of Senn's plates, and that the mortality would be much diminished. Another departure from the typical resection was the combination of pylorectomy with gastro-enterostomy, the cut edges of the stomach and duodenum being shut off so as to form a cul-de-sac, and the anastomosis being made between the stomach and the jejunum. This has been the method employed by Dr. Bull in his three cases. In the preparatory treatment the stomach-pump was employed after the patients were under the anesthetic. This Dr. Bull thought a more effective way

of emptying the stomach, than the old method of several washings out previous to the anesthetic. The median incision had proved the most satisfactory, and was to be preferred to any other. He used no clamps on the stomach or duodenum to prevent escape of contents. The fingers of an assistant he considered more satisfactory, especially if with the aid of hooks or loops of silk the divided ends of the viscera were kept elevated in a vertical position. A plug of iodoform gauze was introduced into the duodenal opening, and a flat sponge in the stomach. There was but slight bleeding from the stomach or intestinal wall, and that which followed the incision for the anastomotic opening was effectually controlled when the catgut rings were approximated. The loop of jejunum was shut off with strips of iodoform gauze while the anastomosis was being made. The continuous catgut suture through the mucous membrane, reinforced by interrupted sutures, were used to close the cut edges of the stomach and duodenum. In using the rings Dr. Bull always added to the silk sutures, which held them in apposition, a line of continuous suture, with an isolated suture where he thought it necessary. He looked upon the rings, not as an absolutely sure method of uniting serous surfaces, but as a most convenient adjunct to a carefully applied peritoneal suture. In all of his cases the gastro-enterostomy had been perfect in point of accurate and secure apposition. One of the patients operated upon by the speaker was now alive and at the last hearing was in good health. He thought that the fatal result in the other two cases could be traced to faults in the technique; in one case, at least, there was no doubt of this, as the autopsy showed that a sponge had been unfortunately left in the stomach.

Statistics showed that out of some thirteen hundred cases of cancer of this region one-half had involved the pylorus. Half of these again were uncomplicated by any involvement of the glands. Therefore half the cases of pyloric cancer were really amenable to treatment by operation. He believed that death in these cases often took place from the effects of the mere mechanical obstruction long before the disease had exhausted the patient. The hydrochloric-acid test and other means now at disposal for careful and accurate diagnosis in these cases should render an early interference possible and then with perfected technique

he thought that the operation of pyloreotomy might be raised from its present position to that of a life-saving and life-prolonging procedure.

Dr. Robert Weir after critically analyzing the mortality percentages after the operation of gastro-enterostomy as against those of resection of the pylorus, thought that the latter operation had been performed a sufficient number of times and had been attended as yet by such fearful mortality, and had proved of such little use in prolonging lives that it ought now be relegated to a place among the experimental procedures.

Dr. Robert Abbé thought that if the operation of resection of the pylorus had only yielded fifty per cent. of satisfactory results, and took three hours to perform, then no surgeon of only general experience and ability should attempt it. Gastro-enterostomy, when its technique was more thoroughly written upon and more properly illustrated, should be possible to any man who could handle knife, scissors and needles.

Dr. Bull did not wish to be understood as advocating resection of the pylorus in cancer of this region, but thought it was the duty of surgeons to undertake the operation when there was a chance of success attending their effort.

The proceedings at the last stated meeting comprised the consideration of certain lesions of the visual tract from the eyeball to the cerebral cortex. In this relation Dr. C. S. Bull, in a paper on Papillitis, expressed the opinion that the most common cause of this condition was intracranial disease and that of the intracranial lesions tumor was the most frequent. The frequency and severity of the papillitis did not seem to be materially influenced by either the nature, the size, or the location of the tumor.

The next most frequent cause was meningitis, then followed abscess of the brain, hydatid disease and softening from thrombosis or embolism. Papillitis was also occasionally met with in acute diseases of the spinal cord. Dr. Bull then gave a synopsis of the various views as to causation which have been from time to time held and promulgated by distinguished authorities. In summarizing his own consideration of the subject, the speaker said that optic neuritis, limited to or most intense in the optic disc, might occur without any apparent intracranial disease. Pure papillitis was known to occur in simple anemia. It seemed therefore fair to conclude that the intra-ocular end of the optic

nerve was a structure peculiarly prone to inflammation. It was a difficult matter to connect papillitis with increase of intracranial pressure for it was the rare exception in chronic hydrocephalus, where the intracranial pressure was raised to the highest point of which we had any knowledge. On the other hand in cases of intracranial tumor with papillitis there might be no sign of increased intracranial pressure during the life of the patient. There might also be signs of increased intracranial pressure in cases of tumor without papillitis. If we rejected the theory that pressure on the cavernous sinuses was the immediate cause of this condition we could not absolutely ignore its influence on the retinal circulation. The great distention of the veins and the narrowing of the arteries took place mainly when the inflammation had reached a high degree of intensity and these facts pointed to the inflammation in the nerve as the cause of the strangulation by pressure on the vessels. This view was confirmed by pathological investigations. The conspicuous constriction of the vessels was always in the papilla in front of the sclerotic. The most intense signs of strangulation might be seen in cases in which there was no reason to suspect the presence of intracranial disease. Distention of the optic sheath was frequently met with in cases of tumor with papillitis. It might also be absent in cases of tumor with internal hydrocephalus. It had been suggested that the fluid might be found within the sheath itself. If the sheath was the main lymph channel by which the fluid was conveyed from the eye, its distention in optic neuritis by fluid escaping from the papilla was easily understood. But there was good ground for believing that the fluid found in the sheath passed into it from the subarachnoid space. Dr. Bull said he really knew very little of the relation which might exist between dropsy of the sheath and optic neuritis. The occasional occurrence of papillitis without it showed that it was neither the invariable nor the chief mechanical cause of papillitis. It therefore seemed proper to draw the inference that we could not decide in any given case against the existence of a descending neuritis from examination of a small portion of the trunk of the optic nerve, and that a pathological change in the nerve deviating but slightly from the normal state might convey a condition of irritation to the eye which was sufficient to set up actual papil-

litis. It also seemed proper to draw the following conclusions in regard to the development of papillitis in intracranial disease: (1). In cases of cerebral tumor, evidence of descending inflammation may be traced in the sheath or nerve much more commonly than is generally supposed, while in cases of meningitis the evidence of descending inflammation is almost invariable. (2). The resulting papillitis may be slight or may grow intense, but we are ignorant of the cases which bring about this difference. (3). The mechanical congestion in these cases of papillitis does not always result from compression of the vessels behind the sclerotic ring, but does always follow compression from inflammatory exudation in the papilla. (4). Slow increase of intracranial pressure has no effect on the retinal vessels, but sudden increase of such pressure may intensify a papillitis originating in some other way. (5). Distention of the sheath alone is probably not sufficient to cause papillitis by its mechanical effects, but it may intensify the process otherwise set up.

In a paper on optic neuritis, including alcohol and tobacco amaurosis, Dr. A. Knapp said that the cases in which people notice a haze, a blurr, even a perfectly dark patch in the centre of their field of vision, known under the name of central amblyopia or central scotoma, as well as those cases in which persons lose their sight in one or a few days without exhibiting any ocular or general disease to account for it, were explained more than twenty years ago by A. Von Graefe and Theo. Leber. They supposed the condition to be an inflammation of the orbital parts of the optic nerve, retro-bulbar neuritis. This hypothesis has since been proven to be a reality by anatomical investigations. Retro-bulbar neuritis might be idiopathic or the result of different kinds of intoxication, alcoholism, nicotinism, lead poisoning, diabetes, syphilis, etc. The condition might take on an acute or chronic form. A number of very interesting microscopic specimens were exhibited to the society. One showed the central interstitial neuritis in the period of nuclear infiltration, another in the stage of connective tissue hypertrophy. The process was characteristic by the limitations of its area of inflammation, circumscribed and triangular near the disc. In one specimen the changes passed like a band from the temporal border of the nerve across to the nasal side. This explained how the atrophy of the nerve might become total.

In all of the specimens a certain number of healthy nerve fibres were seen preserved in the atrophic parts. This showed how in alcoholism, that total blindness was rare, and how, on the other hand, in the field of vision of persons blind from retro-bulbar neuritis islets of useful sight were permanently preserved. Retro-bulbar optic neuritis presented an example of peripheral neuritis of great practical importance.

PERISCOPE.

Immunity to Tetanus and Diphtheria.

The two researches on immunity, of which our Berlin Correspondent telegraphed a brief summary last week, not only have a special interest at the present time, when the attention of the whole world is riveted on the remarkable discovery of Koch for the cure of tuberculosis, but possess also great intrinsic merit. The paper on the Production of Immunity against Diphtheria and Tetanus in Animals, in the *Deutsche Medizinische Wochenschrift*, December 4, 1890, by Drs. Behring and Kitasato, is, perhaps, the more important of the two. These two observers have been engaged for some time in a study of the nature of diphtheria and tetanus, and they have at length succeeded in not only conferring immunity on animals against attacks of either disease, but also in arresting the disease after it has already set in.

The manner in which this is brought about is reserved for a later communication. In the present paper they deal with the subject only so far as to prove the correctness of the following proposition: "That the immunity which can be conferred on rabbits and mice against tetanus depends on the power possessed by the serum of the blood to render innocuous the poisonous products formed by the tetanus bacilli."

This explanation of the nature of immunity has not been distinctly given in any of the publications which have hitherto dealt with the subject. The views hitherto held regarding the nature of acquired immunity have been three—in the doctrine of phagocytosis, which seeks for an explanation in the activity of living cells; the bacteriakilling power of the blood; and lastly, acquired toleration. When any two of these

have failed to explain the phenomena of immunity, or have been proved by experiment to be false, this has been regarded as a proof by the process of exclusion that the remaining one was right. Thus Bouchard, in his recent address before the International Medical Congress, declared : "Let us speak no more of an education of leucocytes, and a toleration of cells to the action of bacterial poisons ; it is the bacteria-killing power of the body which constitutes what we term vaccination, or acquired immunity."

One of the present observers (Behring), in the course of his investigations on rats and guinea-pigs rendered immune against diphtheria, failed to find either of the above explanations satisfactory. The explanation was at last, after many failures, found in the bacteria-killing power possessed by the blood of animals immune to the diphtheria bacilli. This explanation was then found to apply also to tetanus. The results of their observations they sum up as follows :

1. The blood of rabbits rendered immune against tetanus possesses bacteria-killing properties towards the tetanus bacillus.
2. These properties belong also to extravascular blood, and to the serum obtainable from such blood.
3. These properties are of such a durable nature that they remain active even in the bodies of other animals, so that it is possible to obtain good therapeutic results by the operation of serum or blood transfusion.
4. These properties are entirely absent from the blood of such animals as are not immune against tetanus ; and when the poison of tetanus is introduced into these animals, it can be found after death in the blood fluids of the body.

The following are some of the observations on which the above conclusions are based :—Their method of conferring immunity against tetanus they reserve for a coming paper. A rabbit was rendered completely immune against tetanus, the degree of immunity being such that 10 cubic centimeters of a virulent tetanus culture was entirely without effect, while $\frac{1}{2}$ cubic centimeter sufficed to kill an ordinary rabbit. It was found that the animal had acquired immunity, not only against the living tetanus bacilli, but also against the poison. It could withstand, without ill effect, twenty times the dose required to kill a healthy rabbit. Blood was withdrawn from the carotid of this animal. Of this fluid blood 0.2 cubic centimeter and 0.5 cubic centi-

meter were injected into the peritoneal cavity of two mice. Twenty-four hours later both were inoculated with virulent culture of tetanus, two healthy mice being at the same time inoculated with the same culture. While the latter died in twenty-four and thirty-six hours respectively, the two former remained perfectly healthy.

The greater quantity of the blood was allowed to stand till the serum had separated. Of this serum, 0.2 cubic centimeter was injected into the peritoneal cavity of six mice. Inoculation of these twenty-four hours later with virulent tetanus proved without effect, the mice remaining quite healthy, while the mice used as control experiments all died in forty-eight hours.

It is also possible to obtain good therapeutic results with such serum, by first inoculating the animals and then injecting serum into their peritoneal cavities.

Further experiments were also made showing the intensely destructive action of this blood serum against the tetanus poison. A tetanus culture ten days old was taken and filtered, so as to be free from all spores. Its virulence was such that 0.00005 cubic centimeter sufficed to kill a mouse in four to six days, while 0.0001 cubic centimeter killed it with certainty in less than two days, 0.5 cubic centimeter of the serum of the immune rabbits was mixed with 0.1 cubic centimeter of this culture, and allowed to act for twenty-four hours on the tetanus poison contained in it. It was then found that mice could withstand 0.2 cubic centimeter to 0.033 cubic centimeter, or 300 times the dose necessary to kill healthy mice. The mice remained quite healthy, while the control mice died in six hours, after a dose of only 0.0001 cubic centimeter.

All the mice rendered immune in this way have remained so ; they have been repeatedly inoculated with virulent tetanus cultures without the slightest ill effect. This fact is the more remarkable since in the many experiments that have had to be made not a single mouse or rabbit has ever been found naturally immune against tetanus, and furthermore all the attempts made in the laboratory for a long time back by other methods to render these same animals immune have completely failed. Thus the conclusion may be drawn that the explanation of the nature of immunity given above is one capable of wide application. In all cases control experiments were made with the blood and serum of rabbits not immune.

Jan. 3, 1891.

Periscope.

15

Both blood and serum proved to be entirely inactive. The same was found to apply to the serum of oxen, calves, horses and sheep.

It was also found that the blood of such animals while in the vessels was destitute of such tetanus-destroying properties. Thus rabbits injected subcutaneously with 0.5 cubic centimeter of a virulent tetanus culture, free from spores, died in five or six days with all the symptoms of tetanus well pronounced. In such cases on *post-mortem* examination a serous effusion was found in every case without exception in the pleural cavities. On the average 0.3 cubic centimeter of this fluid sufficed to give a mouse tetanus and to kill it, and the blood of such animals was capable of giving rise in turn to tetanus when injected into other animals.

The application of these most striking results to the cure or prevention of these two diseases in man is reserved for future consideration. The authors, however, aptly conclude their communication by drawing attention to the support given by their results to the view at all times widely held, and fitly described by Goethe in the words of Mephistopheles to Faust :

Das Blut ist ein ganz besonderer Saft.

These words derive a new and altogether special significance from the result of recent bacteriological observations.

The second paper is a continuation of one which appeared early in the present year by Brieger and Fraenkel, entitled "Researches on Bacterial Poisons." The main points of this paper were noted in the *British Medical Journal* at the time of its publication. The present contribution to the same subject is from Fraenkel alone, and deals with the methods of producing immunity against diphtheria. It will be remembered that in the paper referred to these two observers endeavored to show that the pathogenic action of a number of organisms was to be attributed to certain products of their activity of an albuminous nature; to these bodies they gave the name of "toxalbumins." The disease most thoroughly studied in this connection at that time was diphtheria. They considered the most characteristic features of these toxalbumins to be, first, their albuminous nature, and, secondly, their peculiar action on the organism. The latter, in many respects, resembled that of ferments, but they were unable to regard them as ferments, for this reason, that while, according to them, the action of ferments is

more or less independent of the quantity present, in the case of toxalbumins the dose was the most important factor. The larger it was the more rapid and complete was their action, and they lost their power altogether when the dose fell below a certain limit. In this respect, therefore, they resembled in their action ordinary vegetable and mineral poisons.

Fraenkel's later observations, here communicated, deal with the artificial production of immunity against diphtheria.

There are two ways in which the body may be protected against the attacks of pathogenic micro-organisms. The first of these we owe to Pasteur. In it use is made of cultures, the virulence of which has been lessened in various artificial ways—by heating, etc. In the other method use is made of the various products of bacterial activity—completely free from the organisms themselves. Of the comparatively numerous researches that have already been carried out by various observers in this latter domain; those of Smith, Chamberland and Roux, Beumer and Peiper, Gamaleia, Bouchard, Charrin are here referred to; that of Hankin, who succeeded in isolating the very substance which confers immunity against anthrax, is, however, not mentioned—an omission all the more to be noted as his work is the most conclusive of all, and was carried on in the same laboratory as that in which Fraenkel worked.

Both the above methods have been used by Fraenkel in his present research. Little difficulty was experienced in weakening the bacilli of diphtheria either by heating their cultures to a certain high temperature, or by adding some antiseptic agent, such as potassium bichromate or gentian violet. The results obtained in this way were unsatisfactory and uncertain, the weakened cultures varying much in their activity, and very readily, under certain circumstances regaining their virulence. He found it impossible to confer immunity, even in a small degree, by this means.

In his experiments with the products of their activity, he used at first toxalbumins which had been kept in a dry condition for many months without losing in any way their poisonous properties. These failed entirely to confer immunity against the disease. It appeared, indeed, as if the animal inoculated with this substance in small doses died more quickly after subsequent inoculation than healthy animals.

Better results were obtained when, instead of the toxalbumins, he employed the fluids obtained by filtering the cultures through a porcelain filter, or heating them for an hour to a temperature of 55° C., thus freeing them from all living elements. Some of the animals injected with these cultures gained a certain tolerance of the diphtheritic poison, dying, for example, three, four, six and nine days after an injection of 0.1 cubic centimeter, instead of in thirty to thirty-six hours, as in the case of untreated animals. They all died, however, none of them acquiring a complete immunity. This result, such as it was, satisfied him that he was on the right track.

A further advance was made when, instead of small quantities, he used larger quantities of these culture fluids. The filtered culture, or the culture itself, was heated for an hour at a temperature of 100° C., and 10 cubic centimeters injected subcutaneously into guinea-pigs. A few of the animals so treated survived subsequent inoculation with virulent diphtheria; the great majority of them, however, died, although at later periods than usual, namely, after two weeks and a half.

He finally found that a temperature of 65° to 70° C., maintained for an hour, yielded the best results. Injections of 10 to 20 cubic centimeters of a culture of diphtheria bacilli so treated rendered guinea-pigs immune against subsequent injections of even the most virulent poison. Even this conclusion required modification, for it only applied when the subsequent inoculations were made not earlier than fourteen days after immunity had been conferred. If made sooner, the result was uncertain, some animals dying, others not. In the first few days after the injection the resistance of the animal seemed, indeed, to be lessened, the animals dying more rapidly and certainly than before, when inoculated with virulent cultures.

Furthermore, the immunity in this way conferred only applied against subsequent subcutaneous inoculation, and not to subsequent inoculation of mucous membranes—such as the vaginal—with diphtheria. To this extent, therefore, it is imperfect, and considering the ordinary method of propagation of diphtheria in man through the mucous membrane, this result obviously leaves a wide blank still to be filled up before we can apply these results obtained on animals to man.

The remaining portion of the paper is taken up with a consideration of the nature of the body which confers this immunity. Fraenkel concludes that it is quite distinct from the one that produces the poisonous symptoms, that while the latter is destroyed at a temperature of 55° to 60° C., the former is not destroyed till a temperature of 100° C. is reached, although it is weakened at any temperature above 90° C.

The best temperature, therefore, at which to heat the cultures so as to destroy their toxic properties without destroying those on which their power of conferring immunity depended is 66° to 70° C. This substance which confers immunity has no therapeutic properties. So far, indeed, from this being the case, its injection into animals previously suffering from diphtheria rather hastens their death.—*British Medical Journal*, December 13, 1890.

The White Blood Corpuscles in Croupous Pneumonia.

Dr. T. S. Kikadze, in the *Bolnitchnaya Gazeta Botkina*, May 16, 1890, reports investigations of the blood in a large number of cases of croupous pneumonia during the course of the disease. He describes minutely the methods and precautions used in the work.

The results are represented in diagrams which show distinctly the possibility of predicting the character that the disease will assume in its course, the prognosis, and in case of poor prognosis, the treatment which is proper to lessen the gravity of conditions. The conclusions are:

1. During a normal course of croupous pneumonia the absolute, as well as the relative, number of white blood-cells is mostly increased to twice or three times the normal number.
2. In fatal cases of croupous pneumonia no increase is observed, and sometimes there is actual diminution of the same.
3. The increase in the number of leucocytes is on account of the mature and degenerating elements of the white blood-cells.
4. The above-cited changes in the blood take place early in the disease, earlier than any pulmonary changes show themselves.
5. Once taken place, the above changes remain with little variation until the occurrence of crisis.

Jan. 3, 1891.

Periscope.

17

6. Just before the crisis takes place there is a sudden increase of the number of leucocytes; the latter is supposed to be due to the re-entrance of the leucocytes from the pulmonary alveoli into the blood-vessels. This view is supported by the fact that at the same time there is an increase in the number of degenerating leucocytes.

7. The increase in the number of the normal leucocytes and of those in process of degeneration is parallel with the body temperature.

8. During the period of fever in croupous pneumonia the blood elements show evidences of delayed morphological metamorphosis, which is seen from the elements being in a condition ready to disintegrate.

9. The red blood-cells are progressively decreased until the end of the disease.

10. The temperature and blood crisis occur synchronously. The number of the leucocytes and the body temperature fall suddenly to the normal or subnormal; the amount of the breaking-down elements is diminished accordingly.

11. During the day of crisis the blood shows evidences of hastened morphological metamorphosis in the sense above mentioned.

From the large number of pneumonic patients examined, the author found that the increase in the leucocytes is independent of the area of pulmonary involvement, the intensity of the inflammatory process in the lungs, or the period in the course of the disease. It has nothing to do with the pathological pulmonary process. It depends upon something that is not yet known, but which the author suggests is a pneumococcus, or some other pathogenic microbe, or the products of its vital changes, which fill the blood, secondary to which the local pulmonary manifestations show themselves.

With disappearance of the as yet unknown cause, the blood and temperature crisis takes place. In many cases the author predicted the approaching crisis of temperature because of the decrease in number of the leucocytes, before the temperature took place.

In view of the fact that an increase in the number of leucocytes in the beginning of croupous pneumonia is necessary to a good issue of the disease, the author suggests to use camphor early, when the increase is absent, because camphor increases the number of leucocytes twice and sometimes thrice the normal.

Leprosy in Norway.

In an interesting account of a visit to the Hospital for Lepers at Molde, Norway, published in the *Edinburgh Medical Journal*, November, 1890, Dr. W. Allan Jamieson describes its beautiful situation and its capacity, and discusses certain points in regard to the disease. Himself apparently a believer in the contagiousness of leprosy, he says that Dr. Kaurin, the Physician to the Hospital, is a full believer in the communicability of leprosy. He adds that there are, however, some curious points with respect to this. In Norway no nurse nor any medical man in attendance on lepers has, so far as is known, ever yet contracted the disease, nor have any experimental inoculations on animals been successful. Physicians have inoculated themselves, their colleagues and numerous healthy persons, introducing the leprous material in the form of portions of the nodules under the skin, but no one so treated has yet become a leper. To communicate the disease two factors would appear necessary—one, prolonged or very intimate contact with a leper, as by sleeping in the same bed, wearing the clothes of an affected person, etc.; the other, a peculiar condition of the system, probably induced by habitually partaking of a bad or at least unsuitable dietary. Mr. Jonathan Hutchinson, as is well known, holds strongly that fish is probably the vehicle by which the poison of leprosy gains access to the human body. Medical men have not yet generally adopted his view, but from several conversations which Dr. Jamieson held with intelligent Norwegian peasants as to their opinion of the cause of leprosy, it seemed evident to him that they were inclined to think that fish had at least something to do with its origin or spread. If such a view is, even to a limited extent, correct, there can be no true ground for any leprosy scare as far as England is concerned. There is no reason to fear that, under existing conditions, leprosy will again obtain a hold in Great Britain. Dr. Jamieson weakens his article a little by introducing an *ad captandum* argument founded upon the fact that a physician who holds strongly the view that leprosy is non-communicable once visited a Norwegian leper hospital, and there expressed his opinions freely and decidedly. "Will you then occupy a bed alongside of one of these patients?" asked the doctor in attendance. "No," replied

the anti-contagionist, thus put to the proof after a fashion he did not anticipate, "I have a wife and children at home depending on me." Dr. Jamieson says: He had not, and perhaps one could scarcely expect him to have, the courage of his opinion. This may be so, or not; but it has no bearing whatever upon the correctness or incorrectness of his opinion.

Risks of Cocaine Injections.

The *Medical Press*, November 5, 1890, says that two warning cases are reported from France. In one of them, which occurred at Lille, the patient died, and the dentist who gave the injection was acquitted of neglect, but condemned for practicing medicine without qualification. In the other, which occurred at Paris, the patient was with great difficulty brought round by hypodermic injections of ether. The cocaine injection was also made in this case by a dentist.

In another place the same journal says that the Lille dentist who was charged with causing the death of a girl by injecting cocaine in order to procure anæsthesia, has been sentenced to a fine of fifteen francs for breach of the law regulating the practice of medicine, the judgment endorsing the view that cocaine is an anæsthetic which requires to be used with prudence, and cannot legally be administered by other than a qualified medical man.

Exfoliation of the Bladder in the Female.

The *Glasgow Medical Journal*, October, 1890, quotes from the *Edinburgh Medical Journal*, June, 1890, that Haultain narrates a case of exfoliation of the bladder in a woman, due to retention produced by incarcerated retroverted gravid uterus. Microscopic examination showed the sac, which was expelled through the urethra, to consist of the bladder wall in its entire thickness. Haultain is of opinion that many cases which have been reported as exfoliation of the mucous membrane have really been of the entire thickness of the wall, as in his own case. By others the condition has been confused with exfoliation of a croupous false membrane. The cases published, occurring in females, have all been associated with one of two conditions—retention of urine or la-

bor; the retention of urine being due in all cases but one to incarcerated retroversion of the gravid uterus. Experiments on dogs by May, of Giessen, have shown that retention of urine is of itself sufficient to cause death of the bladder. When the condition is the result of retention, Haultain considers that this is brought about by pressure of the retained column of urine on the veins of the neck of the bladder.

In those cases of labor where it occurs without retention, the pressure on the vesical neck will affect both arteries and veins, so as to produce complete arrest of the circulation. Of 33 cases of exfoliation of the wall in more or less entirety, to which reference is made, there were only 8 fatal.

The formation of an adventitious receptacle for the urine would seem to take place by the agglutination of adjoining pelvic viscera, and the organization of inflammatory products. The amount of control over the urine may be expected to vary with the extent to which the muscular coat, and more especially the sphincter fibres, have survived.

Protopine—A New Opium Alkaloid.

Protopine was first isolated from opium in 1870 by Hesse. It has a formula of $C_{20}H_{19}O_5$, and is present in but small amount. Since then its presence has been detected by Eykemann in the *Macleya cordata*, and by Selle in the *Chelidonium majus*, plants which also belong to the family of the Paveraceæ.

Dr. Engel has recently made some experiments on cold-blooded animals (frogs) and warm-blooded animals (guinea-pigs, cats and rabbits) to determine the physiological properties of protopine, and his results, which are summarized in the following statements, are published in the *Gazette Médicale de Paris*, October 11, 1890:

1. In small doses protopine exercises on the frog narcotic effects similar to those produced by other opium alkaloids.
2. In large doses it produces a paralyzing action on the muscular substance, and on the terminal ramifications of the peripheral nerves.
3. With small or moderate doses reflex action is not abolished, although this occurs when large doses are given.
4. Protopine produces toxic effects in mammals comparable to those produced by camphor, death being produced by a paralysis of the respiratory centre.—*Therapeutic Gazette*, November, 1890.

Jan. 3, 1891.

Editorial.

19

THE
**MEDICAL AND SURGICAL
 REPORTER.**
 ISSUED EVERY SATURDAY.

CHARLES W. DULLES, M.D.,
 EDITOR AND PUBLISHER.

N. E. Cor. 13th and Walnut Streets,
 P. O. Box 843. Philadelphia, Pa.

SUGGESTIONS TO SUBSCRIBERS:
 See that your address-label gives the date to which your subscription is paid.
 In requesting a change of address, give the old address as well as the new one.
 If your *REPORTER* does not reach you promptly and regularly, notify the publisher *at once*, so that the cause may be discovered and corrected.

SUGGESTIONS TO CONTRIBUTORS AND CORRESPONDENTS:
 Write in ink.
 Write on one side of paper only.
 Write on paper of the size usually used for letters.
 Make as few paragraphs as possible. Punctuate carefully.
 Do not abbreviate or omit words like "the" and "a," or "an."
 Make communications as short as possible.
 NEVER ROLL A MANUSCRIPT! Try to get an envelope or wrapper which will fit it.
 When it is desired to call our attention to something in a newspaper, mark the passage boldly with a colored pencil, and write on the wrapper "Marked copy." Unless this is done, newspapers are not looked at.
 The Editor will be glad to get medical news, but it is important that brevity and actual interest shall characterize communications intended for publication.

**EDUCATION AND THE DISEASES OF
 SCHOOL-CHILDREN.**

The object of education should be to fit the pupil for the highest degree of usefulness possible to him. This implies that the pupil is an individual; that some knowledge may be useful to one and not to another; that different pupils are capable of assimilating varying amounts of the same form of knowledge. Childhood is the most critical time of education. Then thoroughness rather than extent of knowledge should be aimed at. Later on in life, when one has mastered a business or profession, it will be found that an acquaintance with a variety of subjects opens up many avenues through which one may receive pleasurable impressions, while at the same time it makes general social intercourse enjoyable, and

enlarges the circle of friends. But in early life the rule should be *multum*, not *multa*, lest the child grow up with a smattering knowledge of many things and without knowing one thoroughly. Above all, it should never be forgotten, in the education of a child, that the most important consideration is health. A child is not educated for childhood, but with a view to ultimate usefulness when fully grown; and every one knows that, to the average person, a sound body is more important for success in life than a well-stored mind.

These remarks have been suggested by an article in the *Revue Médicale*, August, 1890, which refers to a question raised by Dr. Axel Key before the last International Medical Congress, at Berlin. Dr. Key asked if modern education either at home or at school is well adapted to its purpose and calculated to give children a sound mind in a sound body? In the course of his inquiry he made some interesting statements. Boys, he says, pass through three different periods of development: An important growth takes place when they are about seven or eight years old, another, but less considerable increase from their ninth to their thirteenth year; and at puberty—from fourteen to sixteen years of age—there is a remarkable and very rapid increase in height and weight. Girls pass through the same stages, but the stages appear some years earlier than in boys. As regards differences in social position, those in good circumstances are a year in advance of the poor of the same age, showing that poverty and faulty conditions of existence retard the development of children.

Key also says that children do not gain much in height from the end of November to the end of March; from March to July, height increases much, but not weight; while from July to the end of November, gain in height is very slight; but there is a great gain in weight—the daily gain in weight being often three times greater than during the winter months. When summer vacations

are early, they give opportunity for a very great gain of weight.

The observations of Key have a bearing upon the subject of the education of children; for they serve to give point to the trite remark about childhood being the time for physical growth and development.

The effect of ill-regulated conditions of education may be seen in Sweden, where, Key says, one-third of the secondary scholars are sick or afflicted with chronic affections. Myopia increases in frequency uninterruptedly from one class to the following, while thirteen and five-tenths per cent. of the boys have habitual headache, and nearly thirteen per cent. are chlorotic. Of the girls, nearly thirty-six per cent. are said to be chlorotic, while an almost equal number suffer from habitual headache; ten per cent. at least, have curvature of the spine.

It is not fair to attribute all the defects found in school-children to the school and to study. Many of them would be operative out of school. The points, however, which we have sought most to emphasize are that childhood is the most critical educational period; that children should be taught to "see straight and think clear," to adopt correct methods of study, to learn thoroughly rather than to learn many things; and that in their studies they should be treated as individuals as far as possible, their special requirements and probable ultimate destinies being noted, and their mental and physical disabilities being taken into account. These desirable things are well nigh impossible in our public schools, for the classes are all large, rarely numbering fewer than fifty. The chances of a child are better in a small private school, especially along with careful home encouragement, and are probably best of all under a wise man as a private tutor.

SURGEON-GENERAL SUTHERLAND.

The nomination and confirmation of Colonel Charles Sutherland, to be Surgeon-General of the Army is such an excellent choice that we congratulate the President

and the army upon it: the President because he has acted upon a principle which is admirable in every department of the public service, and the army because it will have a Surgeon-General who is an honorable man and a most excellent officer. More than this, the choice is one which will give support to the idea—so essential to good feeling in the army—that faithful and continuous service counts for something when questions of advancement arise.

Colonel Sutherland was Senior Surgeon of the Medical Corps, and has—as the *Philadelphia Ledger* says—earned his promotion by honorable and meritorious service on the field of battle, as well as in the hospital—in war as well as in peace. He is as reserved in matters of personal preferment as he is forward in all matters in the line of his professional and military duty; and his promotion to the Surgeon-Generalship is due, we believe, entirely to his creditable and honorable record.

Dr. John S. Billings, whose name is so familiar to the medical world, was strongly urged for appointment, and would, we feel sure, have admirably filled the position, but we think the President did well to resist the pressure to appoint Dr. Billings, who will, no doubt, wait without repining until his turn fairly comes. Meanwhile the army and the medical profession will continue to have his valuable services, and he will not have to contend against the difficulties inseparable from a promotion over his seniors in service.

APPOINTMENT OF A LECTURER ON THERAPEUTICS AT THE JEFFERSON MEDICAL COLLEGE.

The Committee of the Trustees of the Jefferson Medical College, appointed to select an instructor to fill for the remainder of the college term the chair of *Materia Medica, General Therapeutics and Hygiene*, lately occupied by Professor Roberts Bartholow, on December 12 named Dr. Albert P. Brubaker for the position.

When the action of the Trustees in ap-

Jan. 3, 1891.

pointing the committee for this purpose became known, the students of the College who had favored Dr. Brubaker's selection started a petition to the faculty to that effect, and in a short time, it is stated, it had over five hundred names on it. On the petition coming before the Faculty, that body appointed a committee to confer with the committee of the Trustees, with the result noted above.

Dr. Brubaker is a graduate of the Jefferson College, of the class of 1874. In 1879 he was appointed Demonstrator of Experimental Physiology in Jefferson College. From 1885 to 1889 he was Demonstrator of Experimental Therapeutics. Since 1885 he has also been Professor of Physiology in the Pennsylvania College of Dental Surgery.

In making this appointment we believe the Trustees of the Jefferson College have found a happy solution of the difficulties into which they were precipitated by Dr. Bartholow's retirement. Time is afforded to see if Dr. Bartholow can resume his work, or to find a successor who will add to the reputation and success of the College; which meanwhile will have the services of an excellent lecturer on one of the most important branches of its curriculum.

BOOK REVIEWS.

[Any book reviewed in these columns may be obtained upon receipt of price, from the office of the *REPORTER*.]

THE SCIENCE AND ART OF OBSTETRICS.

By THEOPHILUS PARVIN, M. D., LL. D., Professor of Obstetrics and Diseases of Women and Children, in Jefferson Medical College, Philadelphia. Second Edition, revised and enlarged. Illustrated with 239 wood-cuts, and a colored plate. 8vo, pp. 704. Philadelphia: Lea Bros. & Co., 1890. Price, Cloth, \$4.25; Leather, \$5.25.

The early appearance of the second edition of this work is evidence of the favor with which the first edition was received. Parvin's *Obstetrics* is universally conceded to be one of the best manuals extant. The author has drawn more largely upon French literature, and leans more strongly towards French practice than is the case with other English and American authorities. This feature of the book renders it a more real addition to American literature. The style throughout is admirably clear and pleasant, and remarkably free from dogmatism. The reader is thus left to form his own judgment when authorities differ.

Appearing at this time, when the subjects of extra-uterine pregnancy, placenta praevia, and the Cæsarean section are attracting such merited attention, it will be interesting to observe the position of so conservative a man with reference to these subjects.

While tubal pregnancy is considered by far the most frequent, all the varieties of ectopic pregnancy are admitted, or at least are not rejected, and ample citations from the literature of the subject are given. The work of Mr. Tait is fully appreciated—although his theories are by no means all accepted—but is not permitted to obscure the work of older and contemporaneous men. Ectopic pregnancy is estimated to occur once for every five hundred cases of pregnancy. This estimate is far higher than the usual one, but is amply supported by accumulating evidence. Salpingitis is regarded as the usual cause of ectopic pregnancy. The question of diagnosis is admirably presented. Broadly speaking, abdominal section and removal of the gestation cyst is recommended, whenever ectopic pregnancy is diagnosed. After considering the question of electrical treatment, the author says: "No impartial reader of the reports of cases by competent and reputable men, can doubt that some cases of ectopic gestation have been conducted by this means to a favorable termination." But he concludes: "Goodell would restrict the application of electricity to those cases refusing abdominal section, or when no one can be found capable of doing the operation. I think this is the most that ought now to be said in favor of the treatment by electricity." This is certainly the view of impartial men.

During the second half of pregnancy prompt abdominal section is likewise advised. The only exception is when the fetus is dead, when sufficient delay to permit obliteration of the placental blood-vessels is advised. Whenever it is possible the fetal sac and placenta should be removed. Otherwise the placenta must be left. In this case the usual method may be employed, of leaving the umbilical cord to hang out of the abdominal wound, trusting to the drainage-tube to take care of the subsequent suppuration; or the cord may be ligated and removed close to the placenta, the sack thoroughly cleansed, and the wound closed without drainage, in the hope that the placenta may be absorbed; or this failing, a secondary operation may be done for its removal, should suppuration or septic changes occur.

A most elaborate review of the subject of placenta praevia is presented. The author evidently considers the tampon a most valuable device, and says but little concerning its dangers. But the methods of Barnes, and more especially of Hicks and of Murphy, which have revolutionized the subject, are fully given. It is interesting to find that the method of Hicks, employed in Germany in 190 cases, saved all but nine mothers. Murphy has had 38 cases, and only two maternal deaths. How pleasant a picture compared to the old mortality of 25 or 30 per cent.!

Our sensibilities are rudely shocked by the statement that the term Cæsarean section has no connection with Cæsar, but is derived from the operation—*caro matris utero*. No evidence is given in support of this statement. Parvin accepts the limitations of Winckel for the performance of Cæsarean section, viz., when the conjugate is 2.6 inches in the generally contracted pelvis, or 2.1 inches in the flat pelvis. But he adds that embryotomy in pelvis approaching these limits will prove, in the hands of those not expert, often more difficult than the Cæsarean section. Operation at a selected time, towards the close of pregnancy, is advised, rather than to await labor. In discussing the

relative indications of embryotomy and Cæsarean section the author is evidently in sympathy "with the increasing number who condemn its [embryotomy] performance where the child is alive." As indications for embryotomy, other things being equal, are given: 1. When the child's life is endangered, so that the probabilities of saving it by Cæsarean section are slight; 2. When delivery of the child without mutilation is impossible, and the mother refuses section; 3. If pregnancy is at term, and delivery is possible with premature labor, embryotomy may be selected in the hope of delivering a living child in a subsequent pregnancy by inducing premature labor. Cases in which the delivery of a living child is impossible, and yet in which embryotomy is safe, are difficult for decision. The woman must decide herself. Obstruction to labor due to cancer of the uterus or vagina suggests gastro-hysterotomy, rather than embryotomy. The mortality of embryotomy in proper cases given as 0 (Winckel); six per cent. (Auvard); of Cæsarean section, 8.4 per cent. (Winckel), 25 per cent. (Auvard).

Our space prevents a further examination of this book; but these chapters cover those subjects in obstetrics in which recent advances have been made; and most faithfully has the author presented the subjects. With reference to the Cæsarean section, we could wish that emphasis had been laid on the necessity for the examination of women during pregnancy, so as to be forewarned of existing conditions. Finally it would be well for women, not only that the book should find its way into every library, but also that its precepts should be mastered by every practitioner.

MEDICINAL-KALENDER FÜR DEN PREUS-
SISCHEN STATT AUF DAS JAHR, 1891. In
two parts. Berlin: August Hirschwald, 1891.

This exceedingly useful publication comes promptly before the beginning of the new year, and contains in addition to the form of record for physicians' work which is used in Germany, a large amount of useful literature. It contains abstracts in regard to therapeutics, diagnosis, hygiene, autopsies, and a directory of physicians in the German Empire. For other than Germans it is a very valuable means of learning a great variety of facts in regard to medical matters in the German Empire.

LITERARY NOTES.

—Mr. George Keil, 1715 Willington Street, Philadelphia, has in preparation the *Medical and Dental Register-Directory and Intelligencer*, for the States of Pennsylvania, New Jersey and Delaware, to be ready early in 1891, and desires every physician in this region to send him the following points: Name in full, school of graduation and year, street and number, post-office and State, office hours.

The *Medical and Dental Intelligencer* will contain in a condensed form information relative to the Associations, Colleges, Hospitals, special and general Dispensaries, Homes, etc.

Its list of National and State Medical and Dental Organizations, giving list of officers, time and place of meeting, and post-office address of physicians and dentists, their office hours (in cities) school of graduation and year, will be complete to date of issue.

The work will be mailed to each physician and dentist whose name appears in its pages.

SPECIAL ARTICLE.

KOCH'S REMEDY FOR TUBER- CULOSIS.

A RESUMÉ OF ITS HISTORY.

[Continued from Vol. Lxiii, page 738.]

The *Glasgow Medical Journal* for December contains a letter from Dr. W. Gordon, written from Berlin, November 18, and giving the views of Prof. Liebreich in regard to the Koch remedy. These may be summarized as follows: Prof. Liebreich thinks the fluid is certainly efficient as a test of the presence of tuberculosis and in the treatment of lupus—although he claims only improvement and "dare not" say cure. For phthisis he believes in "general improvement in some cases," but "no cure yet."

In a lecture before the Society of Physicians of the Charité Hospital in Berlin, Nov. 20, 1890 (*Berliner Klinische Wochenschrift*, Dec. 1, 1890), Köhler showed a number of patients in whom he had used the lymph for diagnostic and therapeutic purposes. In regard to the former, he claimed that persons with tuberculosis reveal the fact by a marked local reaction, while many cases of other surgical lesions present no such reaction. As to the former he showed a case of superficial lupus which he said was fully healed. He concluded with the statement that Koch's discovery is a "triumph of science."

In the *Berliner Klinische Wochenschrift*, December 8, Leyden gives a most interesting account of his experiences with the lymph from November 20 to November 27, covering 46 patients and 136 injections. His paper is a model of scientific fairness and discernment. He made an especially and very important point of the indications of the tuberculous character of serous pleurisy which were furnished by the effects of the lymph under his observation. As to the diagnostic value of the symptoms of reaction, he says that some patients who presented the reaction were absolutely free from suspicion of tuberculosis—as in cases of scarlatina and erysipelas. He concludes by saying his impression is that the "lymph" is an extraordinary medicament, but does not venture to claim that it is a trustworthy means of diagnosis. As to its curative properties he says he cannot express an opinion.

Jan. 3, 1891.

Special Article.

23

As to the changes in the bacilli, he says they cannot be regarded as a characteristic effect of the lymph because like changes are observed at times in untreated cases.

The first physician in America to administer the Koch lymph was Dr. J. P. C. Foster, of New Haven, Conn., who on December 3 used it on a patient with consumption.

On December 9 Dr. V. P. Gibney, of New York, used the lymph for Dr. Allan McLean Hamilton, at the N. Y. Hospital for Ruptured and Crippled.

On December 10 Dr. William H. Bennett, of Philadelphia, began using the lymph.

On December 10 Dr. Francis S. Kinnicut used it at St. Luke's Hospital, New York.

On December 12 Dr. Osler began using it at the Johns Hopkins Hospital.

On December 13 the University of Pennsylvania issued as a special number of the *University Medical Magazine*, a bulletin summarizing the facts so far published in regard to the Koch remedy and describing the method determined upon for its systematic study by a commission of the University.

On December 17 the lymph was first used at the University of Pennsylvania by Dr. J. William White and Dr. J. H. Musser, and at the Jefferson Medical College by Dr. F. P. Henry, Dr. William M. Angney and Dr. J. Solis-Cohen. The reports from the latter institution indicate nothing of special importance—reaction and hope on the part of the patient are recorded. At the University the effects of the lymph are being carefully and thoroughly investigated, and no reports are to be made public until enough observations have been made to warrant them.

[On December 29 Dr. Cohen informs the REPORTER that his patient at the Jefferson Medical College, a young man at 26, is an instance of advanced *tuberculosis pulmonum et laryngis*, with softening in the apex of the right lung and with nodular infiltrations upon the vocal bands and in the posterior wall of the larynx. He had been under treatment for two months, with large doses of creasote internally, and topical applications of first lactic acid, then menthol, and subsequently iodoform, under which he was progressing favorably; the night-sweats having ceased, nutrition having improved and the temperature having become practically normal. Tubercle bacilli, however, remained very abundant in the sputa. When the Koch treat-

ment was instituted, the former treatment was suspended. The constitutional reaction was moderate under the first injection, and the larynx underwent marked congestion without any signs of edema. After the second injection, the constitutional reaction was greater; and the inflammatory manifestations became more marked upon the vocal bands and in the posterior wall of the larynx.

After the third injection, the reaction was a little less than after the second, but this was soon followed by an absolute reduction of temperature below normal, and by a commencement of ulceration in the posterior laryngeal wall, so that it was decided to suspend the injections and watch the local manifestations. While the patient considers himself much better, Dr. Cohen does not consider his condition as good as it was when the injections were begun, and, unless on December 29, a marked improvement was found upon the condition noted on Saturday, the treatment with creasote and iodoform was to be resumed.]

In the *Berliner Klinische Wochenschrift*, December 10, 1890, there are instructive papers by Senator, Henoch, Litten, Turban and Ewald. Senator calls attention to the fact that he has now found the reaction did not correspond in the earliness of its onset, its amount or its continuance to the severity or extent of the tuberculous process. He says this reaction is exactly similar to what is known as febricula or ephemeral fever. He found evidences of depression of the force of the heart during its reaction. On account of the explanation of the *modus operandi* of the "lymph"—necrosis of the tuberculous tissue—he thinks the remedy especially valuable for tuberculosis of open passages like the pharynx and larynx, the intestines, and the urinary tract. He has seen it do good in a number of cases.

Ewald's paper is of very great interest as a thorough and systematic study of about one hundred cases in which the lymph was administered. The general conclusion may be stated as that it is useful for diagnostic purposes and as a remedy in the initial stages of tuberculosis of the lungs as well as in pleurisy.

The *Deutsche Medicinische Wochenschrift*, December 11, contains an address by Helferich, delivered before the Greifswald Medical Society on December 6, in which a full description is given of the effects produced by Koch's remedy in a number of cases of lupus and tuberculosis of the bones and

joints. It concludes with the statement that, in view of his experience, we may have "not the hope but the certainty that Koch's remedy in diagnostic and therapeutic relations marks an epoch-making advance."

In the same journal, Wolff, Director of Dr. Brehmer's Sanitarium at Görbersdorf, gives his experience of the reaction of phthisical patients after receiving injections of Koch's remedy. He found that advanced and grave cases furnished more marked reaction after minimal doses and that incipient and light cases sometimes reacted only after a repetition of the first dose. He describes some cases in which the patients were decidedly worse after receiving the injection; but he says the lymph did good service at Görbersdorf as an aid to diagnosis.

Arning, of Hamburg, in the same journal reports the use of Koch's remedy in two cases of leprosy: one showed no reaction whatever; the other, under the care of Dr. Engel-Reimers had a marked reaction; but this was general and not such at the points of leprous manifestation as is reported in regard to lupus.

Before the Medical Society of Hamburg, Schede, on December 2, reported good early results with the remedy in cases of lupus, tuberculosis of the joints. Maes, of Hamburg, reported good early results in lupus cases. Kast expressed a conservative opinion as to the therapeutic value of Koch's remedy; but spoke favorably of it as a means of diagnosis.

In the same journal in a report of a lecture by Paul Guttmann in which he described the manner of administering Koch's remedy and showed two young women as cured, who had had pronounced symptoms of tuberculous catarrh of the apex of the lung.

The *British Medical Journal*, December 13, contains a lecture delivered by Sir Joseph Lister at Kings College, December 3, in which he not only expressed great confidence in the diagnostic and therapeutic value of Koch's lymph, but also intimated that before many weeks the world might be startled by the disclosure by Koch of an "inorganic chemical substance as easily obtained as any article in the *materia medica*" which he saw cut short in animals the otherwise deadly course of "two of the most virulent infective diseases to which man is liable."

In the same journal in an address by Dr. Yeo describing his observations at Berlin; as to the curative value of the lymph he says:

"Here, however, as well as elsewhere, it was scarcely possible, so short a time had the patients been under treatment, to observe that any actual curative changes had taken place. But it was exceedingly interesting and important to note the action of Koch's injections in cases in different stages of this disease."

As bearing on its diagnostic value he says he saw a case of chronic phthisis that had been in Davos for two years, and failed to react to doses of 3, 5, and 8 milligrams respectively; and there were one or two more case of undoubtedly chronic phthisis with bacilli in the sputum that had not reacted to the injections that had been made up to the time of his last visit. Another case in Professor Ewald's clinic, that yielded no marked reaction after injection of ordinary doses, was that of a highly neurotic young man, with tubercle bacilli in the expectoration, but no well-marked pulmonary physical signs. This was also the case with a gentleman who was in a private sanatorium in Berlin, and whom Dr. Yeo had seen in London in September, 1887. In this case there were evidences of a good deal of pleural thickening, and probably extensive fibroid changes in the left lung.

Nevertheless, he says: "Of one thing there can be no doubt; we have in this fluid of Koch's an agent which exerts a specific action on tuberculous processes. A minute quantity, such as from 1 to 10 milligrammes, which produces no effect on non-tuberculous persons, gives rise to the remarkable effects with which we are now familiar in persons affected with tuberculosis."

Again he asks: "Have we here a cure for tuberculosis? and a cure for pulmonary consumption?" and adds: "I put the two questions separately because I do not consider them identical. . . . In advanced pulmonary consumption we have morbid changes to deal with other than those originally started by the tubercle bacillus, and even if we could destroy every bacillus in the lung as well as the products of their agency, we should in many instances still have to deal with a hopelessly damaged organ. And, even although Koch's treatment may be essential to the arrest of the disease in less advanced cases, hygienic and medicinal measures will be as needful as ever to guide the patient to a permanent cure. . . . I am disposed, from what I have already seen, to conclude that Koch has not been deceived in the observations on the

here, it
me had
to ob-
ges had
y inter-
tion of
t stages

he says
hat had
ailed to
ligrams
or two
phthisis
not re-
n made
Another
yielded
of ordi-
neurotic
the ex-
monary
use with
atorium
seen in
is case
a deal of
extensive

the thing
his fluid
specific
minute
ammes,
tuber-
arkable
iliar in

cure for
monary
but the
do not
vanced
morbid
e origi-
us, and
illus in
of their
ces still
damaged
s treat-
of the
nic and
edful as
manent
t I have
has not
on the

human subject which he has already made, and that his published conclusions will, in the main, be found just and accurate."

In the same journal, Dr. R. W. Philip, of Edinburgh, a special student of consumption, after a careful investigation of the subject in Berlin and in his own hospital practice says: "With regard to final results in these cases, especially in phthisis, it is premature to say much. In very advanced cases, of which I had the opportunity of studying about a dozen, I cannot say that I was satisfied of any definite improvement. The *post-mortem* results of the two or three fatal cases, so far as they have been communicated, point, however, to a local influence having been exerted on the affected organs.

"In less advanced cases, but still cases where, prior to the special treatment, physical examination revealed considerable areas of percussion dulness and abundant crepitations and when the patient suffered from loss of flesh, hemoptysis, night-sweats, and anorexia, the report must be more hopeful.

"In a considerable proportion of these I think we may safely admit that very definite amelioration can be effected. I observed a number of cases where night-sweats had disappeared, where the cough was practically gone, where there was a diminution or cessation of expectoration, and where the patient's subjective condition was better, and a few where there was a gain of several pounds in weight. In very few cases was I able to trace important improvement in the physical signs; but the time was too short for this, and no case has, so far as I was able to learn, been released from treatment as cured. Still I think, pending further observation, we are bound to fall back on the authority of Koch, who states categorically that within four to six weeks patients under treatment in the first stage of phthisis were all freed from every symptom of disease, and might be pronounced cured."

Likewise in the same journal there is a report of cases observed by Dr. William Hunter in Berlin, and treated by Mr. Watson Cheyne and by Dr. Heron in London. Reports of use of fluid at Manchester, Dublin, Glasgow are made and it is said that twenty-three cases were under treatment at Edinburgh, and that the fluid has been tested at the Brompton Hospital. It has also been used for the first time in Italy, by Prof. Bacelli, on November 29.

NOTES AND COMMENTS.

Forty-five Days' Fast.

Succi, the Italian faster, who began a fast of 45 days in New York on November 5, ended his fast at 8.23 P. M., December 20, 1890. Other fasters have gone forty days without food, but they were so weak that they could not sit up. Dr. Tanner could not sit up after the tenth day, and could not write his name after the fifteenth day, but Succi has scorned the idea of weakening all through the weary weeks. On his fifteenth day he rode seven miles on horseback, and has exercised every day since. During his fast Succi drank freely of water, and took small quantities of a liquid which he calls an elixir and which is supposed to contain morphia.

At 6 P. M., December 20, he was examined and his weight was found to be 104 $\frac{3}{4}$ pounds; on November 5 it was 147 $\frac{1}{4}$ pounds—a loss of 42 $\frac{1}{2}$ pounds, or less than a pound a day. His temperature was 98.2; pulse, 62; respiration, 19; general condition weak; tongue clear, moist and steady. The bulletin was signed by the thirteen physicians who have watched during the fast. The worst attack of gastric trouble that he had during his fast occurred on the last day, during which his pain was so acute that it was feared he would collapse; but his will power carried him through. From 5 P. M. until he took his first cup of cocoa, at 8.20, his pain continued to be more or less acute. It was evident in many ways—by the distortions of his face, which was horribly shrunken; by his frequent change of position on the lounge upon which he was reclining; by the nervous twitchings of his wasted hands; by the restless glare of his deep-sunken eyes, and in various other ways.

When the cocoa was prepared, shortly after 8 o'clock, Succi got off the lounge and staggered to the table where the nourishing diet was placed. The spectacle he presented was pitiable. He looked like a skeleton.

The next day Succi arose from sleep after a long slumber, which he fell into shortly after his fast was ended, and an elaborate meal was placed before him. He ate with extraordinary relish.

Following is the menu: Anchovies, with butter; chicken soup, with rice; fried smelts, fried calves' brains, quail on toast, cocoa pudding, fruit, confections, ice-cream, coffee; one-half pint Rorals Extra; one-half

pint Grand Sec. He occupied two hours in consuming the food placed before him. He never faltered, but ate with zest.

Extrication of the Bladder.

At the meeting of the Tenth International Medical Congress, at Berlin, in August last, Pawlik, of Prague, read a paper on extirpation of the bladder, which appears, in the form of an abstract, in the *Mercredi Médical*, November 5, 1890. It seems that the patient upon whom the operation was performed had persistent hematuria, which was ascertained, by catheterization of the ureters, to come from above the bladder. When the urethra was dilated, digital exploration and examination through the endoscope disclosed the presence of a polyp having a slender pedicle. The polyp was removed with the thermo-cautery through an opening from the vagina into the bladder, the fistula being subsequently closed. Complete recovery ensued. The woman left the hospital July 28, 1888.

One year later, in July, 1889, the patient returned. For eight months after the operation she had been in very good health, then hematuria reappeared and persisted. By endoscopic examination a papillomatous mass was discovered, attached over a large part of the surface of the bladder; the growth proved upon microscopic examination to be malignant. A radical operation was decided upon. The one adopted consisted in separating the ureters from the bladder and fastening them in the anterior vaginal wall, then excising the bladder and creating a new bladder by utilizing the remaining portions of the urethra and vagina.

The first operation was performed August 3, 1889. After the introduction of a metallic catheter into each ureter, the woman was placed in the knee-chest position; the vagina was then incised, in the direction of each ureter, for a distance of three-fourths of an inch, the ureter was dissected up and an incision of one-third of an inch was made in its posterior wall. Below this incision, the ureter was tied, and then separated at its vesical end from the bladder, the edges of the orifice of the ureter being then sutured to the opening into the vagina. Extirpation of the bladder was performed August 27, at a second operation. The belly was opened and, without injuring the peritoneum, the bladder, previously filled with an emulsion of iodoform so as to make it easily recogniz-

able, was dissected to the internal orifice of the urethra. The bladder was then emptied and the sub-vesical space was tamponed with iodoform gauze, to prevent any hemorrhage. A transverse incision was now made immediately over the prominence made by the urethra in the anterior vaginal wall; this incision was made sufficiently large and the bladder was brought down through it into the vagina and excised at the internal urethral orifice. At this point in the operation, the patient went into collapse, but recovered on receiving a subcutaneous injection of nine and one-half fluid ounces of warm physiological salt solution. The anterior vaginal wall was sutured to the anterior border of the urethral wound, while the posterior border of this as well as a circular freshening of the entrance of the vagina were utilized to close up the vulvar outlet. Before trying the sutures, an elastic catheter was introduced into each ureter. The abdominal wound was closed down to its inferior angle, from which strands of iodoform gauze passed. The attempted closure of the vagina (colpocleisis) failed, and a fistula formed at the junction of the anterior vaginal wall with the anterior border of the urethral wound. Another attempt at colpocleisis, made June 20, 1890, also failed. On July 18, Pawlik performed sagittal colpocleisis, which succeeded, save for the persistence of a small fistula immediately behind the urethra. When in bed the patient retained her urine a long time; but when she rose, the urine dribbled from the fistula. She is fully aware when the new bladder, which has a capacity of about thirteen fluid ounces, is distended with urine; and she is able to evacuate it voluntarily, by the action of the perineal muscles. There is no doubt, Pawlik thinks, that if the fistula closes, the artificial bladder will possess sufficient retentive power. However that may be, it is a satisfactory result already, that the patient, who for a year was exposed to imminent death, can endure a great deal of fatigue.

Infant Feeding.

In an article in the *Northwestern Lancet*, November 1, 1890, Dr. A. H. Tufts says:

Regularity of time of feeding should be carefully observed. The infant stomach needs periods of rest just as much as the stomach of an adult. The habit of throw-

ing a bottle full of milk, accompanied by the deadly tube, into the crib or into the carriage for the infant to pull at while being trundled about in the hot sun, giving him the opportunity to gorge his stomach at any and all times, is enough to kill a robust man, to say nothing of a tender infant. Under one month of age, once in two hours is often enough to feed the healthy baby, the time to be gradually increased until at six months it is fed once in three or four hours from six A. M. until ten P. M. From ten P. M. to six or seven A. M. the child should sleep through, without feeding. We need to constantly warn and caution the over-anxious mother against overfeeding, or all our painstaking and care may be counterbalanced.

Too often the infant is given food when it needs and wants water instead. Dr. Tufts says he has often known of infants several weeks old who had not been given a spoonful of water, and whose parents seemed surprised when told the little one needed it as much as any one. Sometimes the mother says it will not take cold water; when it may be given warm. If babies were earlier taught the habit of taking freely of water he believes constipation would be less frequent among them.

Symptoms of overfeeding are restlessness, vomiting and undigested food in the feces. The latter used to be always called undigested curds or casein. Now comes one who says this is undigested fat, and proves his statement by saying this material is soluble in ether and alcohol, while casein is not. This, if true, must make quite a difference in our regulating the proportions of milk and cream.

[In this connection we quote from the *Medical Record*, November 15, 1890, thus: Dr. Macleod says mother's milk is always considered by the people of India as insufficient to sustain infant life, and various kinds of milk or other artificial kinds of food are suggested by wise friends to replace it. Cow's milk is generally used as infant food by all middle-class people of Bengal. Donkey's milk is largely consumed in rich families. The Mohammedans, whether rich or poor, prefer goat's milk to any other of its kind; while sheep's milk is considered to be the best article of food by the people of the Northwestern Provinces. Instances have been known where mothers with full breasts and an abundant supply of milk have kept their offspring entirely upon arti-

ficial food and thus invoked disease.—ED. REPORTER.]

Mayer's Ointment.

In a recent issue of the *Pharmaceutical Era* Professor J. U. Lloyd goes into the origin and history of Mayer's ointment, a favorite with eclectic practitioners. Probably John Quincy's "Common Plaster" was a forerunner to it, but it appears certain that some forty years ago a domestic ointment obtained considerable reputation among certain citizens of Cincinnati, and became known under the name "Mayer's Ointment." This ointment was supplied in small tin boxes, and was prepared by a Mrs. Mayer, who exercised great secrecy in the purchase of the ingredients, buying them severally from different druggists, a few from each, in order that no person should learn the entire composition of the salve. A formula for an ointment similar to this was given to Professor John King by Mr. Joseph P. Mayer, of Cincinnati, and it was introduced into his "Eclectic Dispensatory." The formula is as follows:—To olive oil, $2\frac{1}{2}$ lbs., add white turpentine, $\frac{1}{2}$ lb.; beeswax, unsalted butter, of each 4 oz.: melt them together and heat to nearly the boiling point. Then add gradually red lead 1 lb. and stir constantly until the mixture becomes black or brown; then remove from the fire, and when it has become somewhat cool, add to it a mixture of honey, 12 oz., and powdered camphor, $\frac{1}{2}$ lb. Lard may be used instead of butter.—*Chemist and Druggist*, November 8, 1890.

Lanolin Milk.

Paschkis recommends lanolin milk as a most excellent cosmetic, especially for skins poor in fat. It is valuable also as a powder base, giving the skin an almost invisible covering of fatty material, which takes and holds cosmetic powders most admirably. It is prepared as follows (approximately):

Rub up 75 grains of lanolin with about a fluid ounce of water, warming gently. To this mixture add 4 grams neutral soap dissolved in an ounce of water; rub up again, and immediately add sufficient warm water to make about 12 fluid ounces and agitate thoroughly. If desirable, 15 grains of tincture of benzoin or borax dissolved in a little warm water may be added. The mixture must be strained, because, even when most carefully made, small lumps of uncombined lanolin will remain suspended in it.

Condensed Milk for Emulsions.

It is said that nothing equals condensed milk for making emulsions, and according to the *Formulary*, the expense is not relatively great. To make a pint of 50 per cent. emulsion of cod-liver oil, take of

Cod-liver oil	8 fl. ounces.
Condensed milk	3 fl. ounces.
Glycerin or syrup	3 fl. ounces.
Water	2 fl. ounces.

Add of a flavoring oil, such as bitter almond, 10 drops, or wintergreen, 15 drops.

Rub the condensed milk round in a dry mortar, and gradually add the cod-liver oil, working it in as is customary in making emulsions. When thoroughly incorporated add the glycerin, and lastly the water and flavoring extract.

Malaria in Birds.

Danilewsky has recently written to Dr. Dock, of Galveston, Texas, that he has seen acute malaria in birds, with rosette forms of the parasites, confirming his earlier view of the similarity [he says in parenthesis, "identity?"] of the organisms.

NEWS.

—Dr. Matthew Woods has removed to 1307 South Broad Street, Philadelphia.

—Dr. L. Webster Fox has just been appointed ophthalmic expert to the Board of Pension Examiners of the Philadelphia district.

—Dr. B. A. Randall has been elected Clinical Professor of Otology, at the University of Pennsylvania, succeeding Dr. George Strawbridge, resigned.

—The steamer San Juan, at San Francisco December 4 from Panama, reported that the cholera was making terrible ravages in Guatemala. More than 12,000 cases were reported in the State and 1,200 deaths had occurred in the city of Guatemala in seven weeks.

—The prize offered by the Medical Society of the County of New York for the year 1890 has been awarded to Dr. David Cerna, assistant in physiology, University of Pennsylvania, for his essay entitled, "A Physiological and Therapeutical Study of *Hydrastis Canadensis*."

—Dr. Albert P. Brubaker, of Philadelphia, was, on December 12, chosen by the Committee of the Trustees of the Jefferson Medical College to fill, for the remainder of the college term, the chair of *Materia Medica, General Therapeutics and Hygiene*, lately occupied by Professor Roberts Bartholow.

—Word is received from Nicaragua that a new disease has appeared there and has caused several deaths. The victims are seized with severe pains in the stomach. The pain is followed by dysentery and if prompt measures are not taken the sufferer dies within four hours. Dr. Espenosa, of that place, considers the disease a precursor of cholera.

—It is stated in the newspapers that a San Francisco physician has cured a number of cases of cancer, and that three pronounced cases from the New York Cancer Hospital are now on the way to San Francisco in charge of a prominent surgeon from New York, to be operated upon. The result will perhaps determine whether the treatment shall be introduced into the New York Hospital.

—The Senate, on December 30, confirmed the nomination of Dr. Charles Sutherland to be Surgeon-General of the Army. Dr. Sutherland is the ranking surgeon of the medical corps, and in making this promotion the President followed the rule of seniority. Dr. Sutherland is a native of Pennsylvania, and was appointed to the army from this State in 1852. He has a good record for service in the army and stands high in his profession and with officers of the line and staff of the army. He has four years to serve from May next before reaching the age for compulsory retirement.

—Dr. John Davis, one of the oldest physicians of Cincinnati, died suddenly on Christmas night at his home. He had been at Christmas dinner with his wife and a few friends, and while sitting in his library, was attacked with a violent fit of coughing. In half an hour he was dead. Dr. Davis was nearly 70 years old. He was an intimate friend of ex-President Hayes, and often entertained him and Mrs. Hayes, on their visits to Cincinnati. Dr. Davis was, at the time of his death, President of the Union Central Life Insurance Company, and also President of the Law and Order League of Cincinnati, in whose interest he was earnest and active.